# **ARBTECH**

# **Preliminary Roost Assessment Survey**

# Tallet Cottage, Aldsworth, Cheltenham, GL54 3QZ.

# Allan Costley

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# **Executive summary**

Arbtech Consulting Limited was commissioned by Allan Costley to undertake a Preliminary Roost Assessment (PRA) at Tallets Cottage, Aldsworth, Cheltenham, GL54 3QZ. The survey was completed on 22/06/2021. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016). No previous reports have been produced for this site by Arbtech.

Plans were not provided by the client. However, the plans were discussed on Site. The proposed development comprises the renovation of the existing barn into a residential dwelling. It is noted that the barn is already partially renovated in association with a previous planning application. Works that have already been undertaken broadly include re-pointing of stonework, roof renovation works including new tiles on the north and east aspect, the filling of the eaves with mortar.

## Recommendations - This is work you will need to commission (if any) to obtain planning permission and comply with legislation

In line with current guidelines, three bat surveys are required to determine the type of bat roost present and the location of the access points for bats currently roosting within B1. Two dusk emergence surveys and a separate dawn re-entry survey should be undertaken. Each survey should be separated by a minimum of two weeks. The emergence/re-entry surveys must be undertaken during the active bat season (April to September) with two surveys taking place during the optimum active season (Mid-May to August).

Two surveyors are required to provide full coverage of the building. Recommended surveyor locations are shown in Appendix 1.

See section 4.2 for full evaluation.

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## **1.0 Introduction and Context**

#### 1.1 Background

Arbtech Consulting Limited was commissioned by Allan Costley to undertake a Preliminary Roost Assessment (PRA) at Tallets Cottage, Aldsworth, Cheltenham, GL54 3QZ. The survey was completed on 22/06/2021. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016). No previous reports have been produced for this site by Arbtech.

## 1.2 Site Context

The site is located at National Grid Reference SP 15680 10088 and has an area of approximately 0.01ha. There is one building within the site boundary that will be impacted by the proposed works; this building therefore comprises the extent of the PRA survey.

#### 1.3 Scope of the report

This report provides a description of all 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 as a result 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 the presence of roosting bats, and to gain an understanding of how they could use the site. To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken, including an external survey and internal inspection where possible.
- 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 the requirements of a European protected species mitigation licence (EPSML) application if appropriate.

A survey plan is presented in Appendix 1, desk study results in Appendix 2 and a summary of relevant legislation is presented in Appendix 3.

It is noted that a proposed plan has not been provided and is thus not included in the appendices.

#### 1.4 Project Description

Plans were not provided by the client. However, the plans were discussed on Site. The proposed development comprises the renovation of the existing barn into a residential dwelling. It is noted that the barn is already partially renovated in association with a previous planning application. Works that have already been undertaken broadly include re-pointing of stonework, roof renovation works including new tiles on the north and east aspect, the filling of the eaves with mortar.

# 2.0 Methodology

# 2.1 Desk Study

The desk study included a 2km radius review of statutory designated sites, Priority Habitats Listed under Section 41 of the NERC Act (see **Appendix 2**) and granted EPSML records for bats held on magic.gov.uk database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps. Existing bat records relating to the site and a surrounding 2km radius are required to conform to national guidelines. This data was requested from the Gloucester Centre for Environmental Records. The data search is confidential information that is not suitable for public release and is analysed and summarised for presentation in this report.

# 2.2 Site Survey

The survey was undertaken by Jonathan Stuttard (Senior Consultant) on 22/06/2021. Jonathan Stuttard is accredited on Natural England Bat License 2017-32515-CLS-CLS.

All features that will be impacted by the project proposals were assessed for their bat roosting and commuting habitat. The surveyor systematically surveyed all features suitable for bats and signs of bat activity.

# For any surveyed buildings:

A non-intrusive visual appraisal from the ground using binoculars, inspecting the external features of the building(s) for potential access and egress points, and for signs of bat use. An internal inspection of the building was also made, including the living areas of derelict or abandoned buildings and the accessible roof spaces of all buildings, using an endoscope, torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

## 2.3 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 barn owls.

# 2.4 Suitability Assessment

The PRA comprised an external and internal assessment of the building to be impacted by the proposed works on site for their potential to support roosting bats. The surveys were led by an experienced ecologist and were based on current best practice guidelines (Collins, 2016)<sup>1</sup>. All features that are likely to be impacted by the proposed development were assessed for their potential to support roosting bats. The surveyor systematically surveyed all features suitable for-bats and signs of bat activity.

<sup>&</sup>lt;sup>1</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

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The PRA of the building included a visual inspection (including the use of binoculars and torches where required) of the exterior of the building for evidence of bat use (e.g. droppings, scratch marks, staining and sightings). Factors considered whilst undertaking the PRA comprised internal conditions, presence of features suitable for use by roosting bats, proximity to foraging habitats or cover and potential for disturbance. Notes were made relating to relevant characteristics of features providing potential access points and roosting opportunities for bats. **Table 1** below details the rationale for determining bat roost potential of buildings and trees subject to the PRA.

Table 1: Rationale for assigning bat roost potential

Assigned Bat Roosting Potential	Description/ rationale
Confirmed roost	Evidence of roosting bats within the building or tree.
High	A building or tree with one or more Potential Roost Features (PRFs) 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 and surrounding habitat.
Medium	A building or tree with one or more PRFs that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only).
Low	A building or tree with one or more PRF that could be used by individual bats opportunistically. However, these PRFs do not provide enough space, shelter, protection, appropriate conditions 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).
Negligible	Negligible features on site likely to be used by roosting bats.

## 2.5 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. This survey provides a preliminary view of the likelihood of bats being present. This is based on suitability of the habitats on 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.

There were no specific limitations to the survey.

The southern aspect of B1 could not be viewed externally it its entirety as access to an adjacent property was not available.

# 3.0 Results and Evaluation

# 3.1 Desk Study

A summary of desk study results is provided below, full details are presented in Appendix 2.

# 3.2 Designated sites

The Site is not located within any Statutory Designated Sites. Furthermore, no statutory designated sites are located within 2km of the Site.

A single non statutory designated site is located within 2km comprising a Local Wildlife Site. This site is detailed in **Table 2** below.

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

Designated Site Distance from		from	Reasons for Notification from Natural England					
Name		Site (appr	·ox.)					
Statutory Sites	Statutory Sites – None with 2km							
Non-Statutory	Non-Statutory Sites							
Leachbrook	Banks	1.75km	south	A significant coverage of good quality semi-improved grassland.				
LWS		west						

# 3.4 Historical records

Historical records of bats within 2km of the site as requested from the Gloucestershire Centre for Environmental Records are summarised in Table 3 below.

Common name	Scientific binomial	Number of records	Number of roost records	Maternity roost records
Soprano pipistrelle	Pipistrellus pygmaeus	1	0	0
Lesser Horseshoe	Rhinolophus hipposideros	8	3	3
Noctule	Nyctalus noctula	2	0	0
Whiskered	Myotis mystacinus	2	2	0

Table 3: Historical records of bats within 2km of the site

A search of the magic.gov.uk database for granted European Protected Species Mitigation Licences (EPSMLs) within a 2km radius of the site has been completed. Displaced bats from licenced sites >1km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licenced site. The ESPMLs granted within 2km of the site are detailed in **Table 4** below.

# Table 4: Granted EPSMLs (bats) within 2km of the site

Case reference of granted application	Approx. distance from site	Bat Species Effected	Licence Start Date:	Licence End Date:	Impacts allowed by licence
EPSM2012-4136	100m north-west	Lesser Horseshoe,	28/03/12	28/02/14	Impacts to resting place
		Brown long eared,			
		Whiskered			

# 3.3 Landscape

A review of the designated sites, aerial photographs (Figure 1), the MAGIC database and OS maps has been undertaken. Collated together, the site's local bat habitat is described below:

The site is located directly adjacent to further residential dwellings and their associated gardens on all aspects. The area surrounding the village of Aldsworth is predominantly agricultural and is dominated by arable fields and their associated hedgerows, ditches and tree lines. These habitats often provide foraging and commuting opportunities for bats.

The area surrounding the site within 2km contains a number of priority habitats that are likely to be of high value to bats. Specifically, priority habitats located within 2km include pockets of deciduous woodland, good quality semi-improved grassland and lowland calcareous grassland. These priority habitats are likely to be connected to the site and the wider landscape through continuous green infrastructure typically utilised by commuting and foraging bats such as hedgerows, tree lines, and residential gardens.

Priority habitats within 2km of the site are listed in Table 5 below and shown in Appendix 3.

# Table 5: Priority Habitat Inventory within 1km (Magic.gov.uk)

Habitat	Closest distance from site
Deciduous woodland	1km north
Good quality semi-improved grassland	1.8km north-west
Lowland calcareous grassland	1.9km north



**Figure 1**: Site Location within the wider landscape

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# 3.5 Field Survey Results

One building on site was surveyed, designated as **B1** and illustrated in the map in **Appendix 1**. The weather conditions recorded at the time of the survey are shown in **Table 6**.

Table 6: Weather conditions during the survey

Date: 22/06/2021	
Temperature	22°C
Relative humidity	20%
Cloud cover	30%
Wind	2 mph
Rain	None

# 3.6 Site Feature descriptions and photos

# North building aspect

B1 is a single-storey, traditional Cotswold stone barn with a single pitched roof. The north aspect of B1 has a single timber entrance door and no windows. The roof on the north aspect has been renovated in association with an historic planning application. It is understood that traditional Cotswold stone tiles previously present have been replaced with clay tiles. The tiles are fixed directly to the stonework with mortar and thus there are no open eaves. The stonework has also been partially renovated externally and re-pointed where required. The stonework is therefore mostly gapless; where gaps are present the missing mortar does not provide access into a significant internal cavity or into the barn.

Although the clay tiles were fitted relatively recently, given the old age of the barn and that many of the original roof timbers have been retained, the roof is not laid perfectly flat. As a result, there are a number of small gaps located underneath the tiles that may provide access into the barn for bats.



of B1.

Photograph 2 – north-east aspect of B1

# East and West building aspects

The east building aspect represents the gable end and is built from Cotswold stone. A single timber framed window and door are present both are in good, gapless condition. Roof tiles are fixed directly to the stonework with mortar; there are some cracks in this mortar, however, these are external only and do not provide access into the barn. It is noted that a small lean-to extension is present that is associated with a neighbouring property.

The west building aspect is also of Cotswold stone construction, however, the west facing roof is hipped. B1 is connected to an adjacent building to the south; the west facing roof is hipped where these two building sections meet. This section of roof has also been renovated relatively recently with the installation of clay tiles and new mortar added at the roof eaves connecting the roof to the stonework. As with the north facing roof section, there are a number of small gaps located underneath the tiles that may provide access into the barn for bats.



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# South building aspect

The south building aspect faces the garden of a separate residential property adjacent to the south and could only be partially viewed. However, the roof could be viewed in its entirety. Notably, the south facing roof section has not been updated and retains a traditional Cotswolds stone tile construction. **Due to the nature of Cotswold stone tiles being of varying shapes and sizes, there are small gaps underneath most tiles that may provide access into the barn for roosting bats.** 



aspect of B1.

# **Internal Conditions**

Internally, B1 is a large open barn comprised of two rooms. The largest room has a timber mezzanine at the eastern end with an open loft space. The smaller room is located at the western side of B1 and is a large open room. Both rooms within B1 have concrete/ stone floors, bare Cotswold stone walls and open loft spaces with exposed roofing timbers and trusses. The internal stonework throughout has been extensively re-pointed I association with the historic planning application. Further works undertaken internally include the adding of mortar to block any gaps at the eaves in addition to the replacement of rotting roof timbers. A roof membrane is present underneath all roofing tiles. It is noted that although the roof membrane is well fitted, bats can crawl through small gaps in the membrane where the sheets overlap to enter buildings from underneath roof tiles.

Significantly, many original timber features are still present within the barn such as original roof timbers, door frames, window frames and other agricultural features. **Gaps and crevices associated with these timber features provide potential roosting features internally for bats that find access into the barn.** 

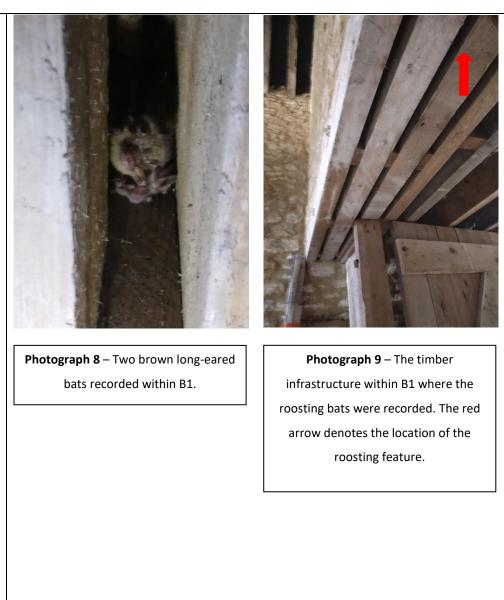


Photograph 6 – Internal view of the room within the west side of the

Photograph 7 – Internal view of the main room in the barn from the mezzanine.

# Evidence of bats – roosting

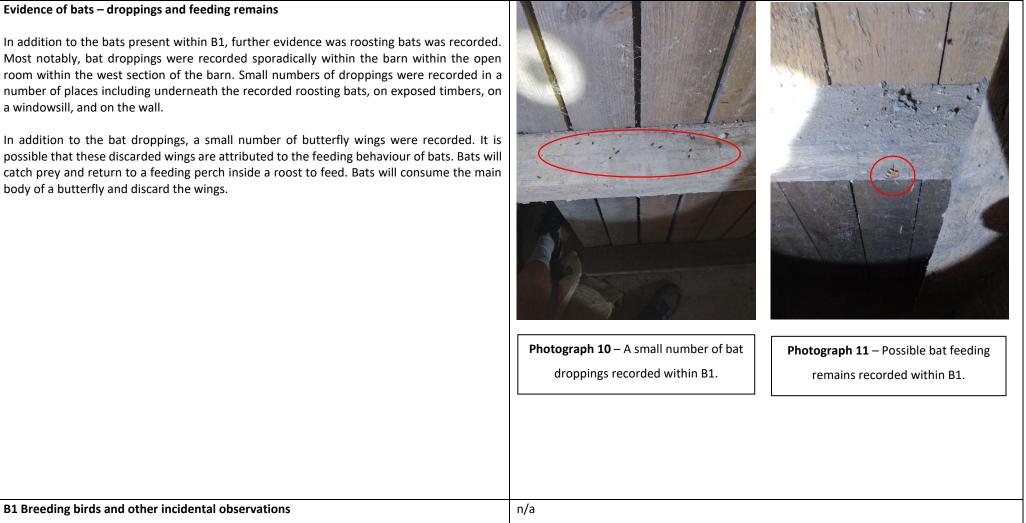
Two brown long-eared bats and a single pipistrelle bat (common or soprano species) were recorded roosting between timber infrastructure located above a door inside B1. As a result, **B1 is a confirmed bat roost.** 



# Evidence of bats – droppings and feeding remains

In addition to the bats present within B1, further evidence was roosting bats was recorded. Most notably, bat droppings were recorded sporadically within the barn within the open room within the west section of the barn. Small numbers of droppings were recorded in a number of places including underneath the recorded roosting bats, on exposed timbers, on a windowsill, and on the wall.

In addition to the bat droppings, a small number of butterfly wings were recorded. It is possible that these discarded wings are attributed to the feeding behaviour of bats. Bats will catch prey and return to a feeding perch inside a roost to feed. Bats will consume the main body of a butterfly and discard the wings.



There was no evidence of nesting birds located internally or externally on the survey building.

# 4.0 Conclusions, Impacts and Recommendations

#### 4.1 Informative guidelines

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). 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.

There are three potential outcomes of this survey, each with specific recommendations. These are outlined below:

#### **Confirmed bat roost**

Best practice survey guidelines (Collins, 2016) recommend additional surveys for confirmed roosts. Three further surveys are required to characterise the bat roost present including species, roost type and access points to inform a European protected species mitigation licence (EPSML) application with Natural England. Surveys must be completed during the active bat season (May – September). At least two of the surveys should be completed during the optimal survey period mid-May to August, and at least on the surveys should be a dawn re-entry survey (Collins, J. 2016).

## Low, moderate or high likelihood of a bat roost present

Best practice survey guidelines (Collins, 2016) recommend additional surveys for features assessed as having low to high suitability for roosting bats. One, two or three further surveys are required to confirm presence/likely absence of a bat roost, based on a low, medium or high roost likelihood evaluation. Surveys must be completed during the active bat season (May – September). If more than one survey is recommended, at least one of them should be completed during the optimal survey period mid-May to August, and at least one the surveys should be a dawn re-entry survey (Collins, J. 2016). If two or one further survey is recommended these surveys must be completed during the optimal survey period (mid-May to August). For low and moderate roost likelihood evaluation the survey effort recommended at this stage is iterative and if bats roosts are confirmed in the building, a further survey will be required to provide sufficient information to inform an EPSML application to Natural England.

## Negligible likelihood of a bat roost present

Buildings assessed as comprising negligible suitability for roosting bats do not normally require further surveys. However, if bats are found during any stage of the development, work should stop immediately and a suitably qualified ecologist should be contacted for further advice.

# 4.2 Evaluation

Considering the results of the desk-based assessment and site survey results, the potential of the building to support roosting bats and the recommended further survey requirements are

detailed in **Table 7** below.

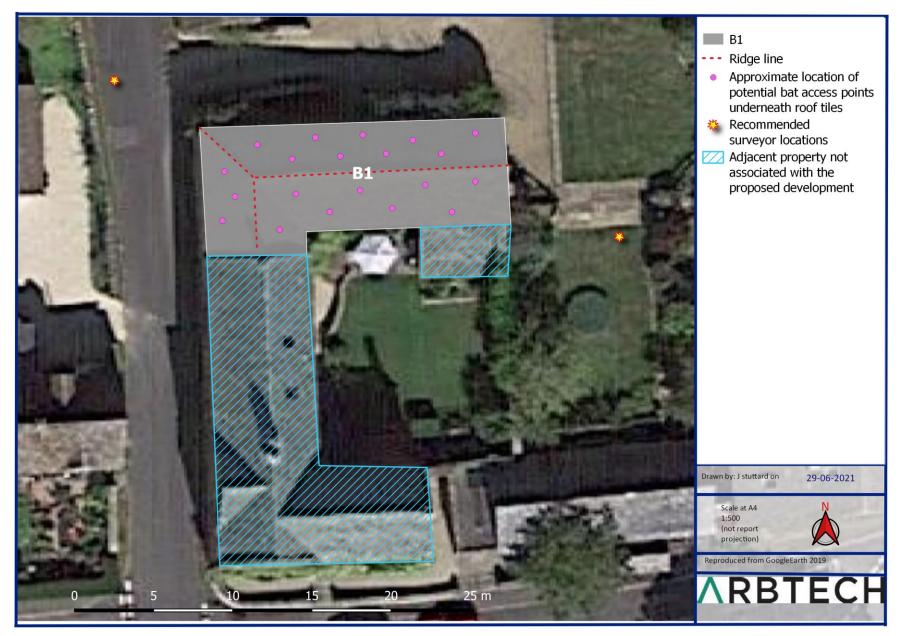
Table 7: Evaluation of building on site

Ref	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations	Required mitigation and enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2018)
B1	Although B1 has been subject to some historic renovation works including repointing of stonework, the filling of eaves with mortar, and the partial renovation of the roof, access is still available into the barn for bats. It is assessed that access opportunities for bats are most prevalent underneath the roofing tiles on all aspects. Internally, B1 retains many features suitable to support roosting bats predominantly associated with internal timber infrastructure. Roosting bats were recorded within B1. Furthermore, evidence of other roosting sites within B1 were recorded in the form of bat droppings and potential feeding remains. As above, B1 represents a <b>confirmed</b>	The internal renovation of B1 into a residential dwelling will directly impact bats roosting within the building.	In line with current guidelines, three bat surveys are required to determine the type of bat roost present and the location of the access points for bats currently roosting within B1. Two dusk emergence surveys and a separate dawn re- entry survey should be undertaken. Each survey should be separated by a minimum of two weeks. The emergence/ re-entry surveys must be undertaken during the active bat season (April to September) with two surveys taking place during the optimum active season (Mid-May to August). Two surveyors are required to provide full coverage of the building. Recommended surveyor locations are shown in <b>Appendix 1.</b>	To be confirmed following further surveys.
	bat roost.			

# 5.0 Bibliography

- British Trust for Ornithology (2016) <u>www.bto.org/about-birds/nnbw/putting-up-a-nest-box</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 (2021).
- MAGIC database (2021) <u>http://www.magic.gov.uk/MagicMap.aspx</u>.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

# Appendix 1: Survey Plan

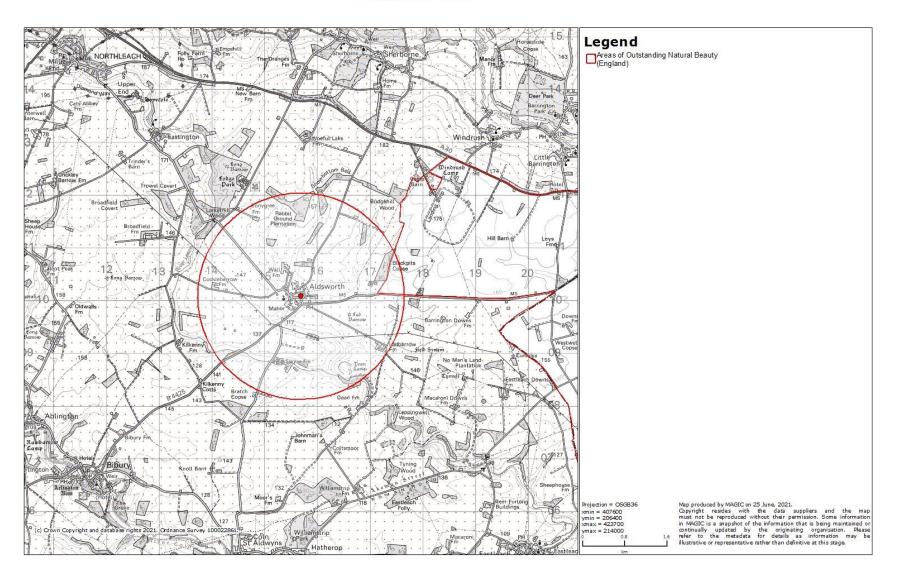


# Appendix 2: Desk Study Information

Full historical records can be provided on request.

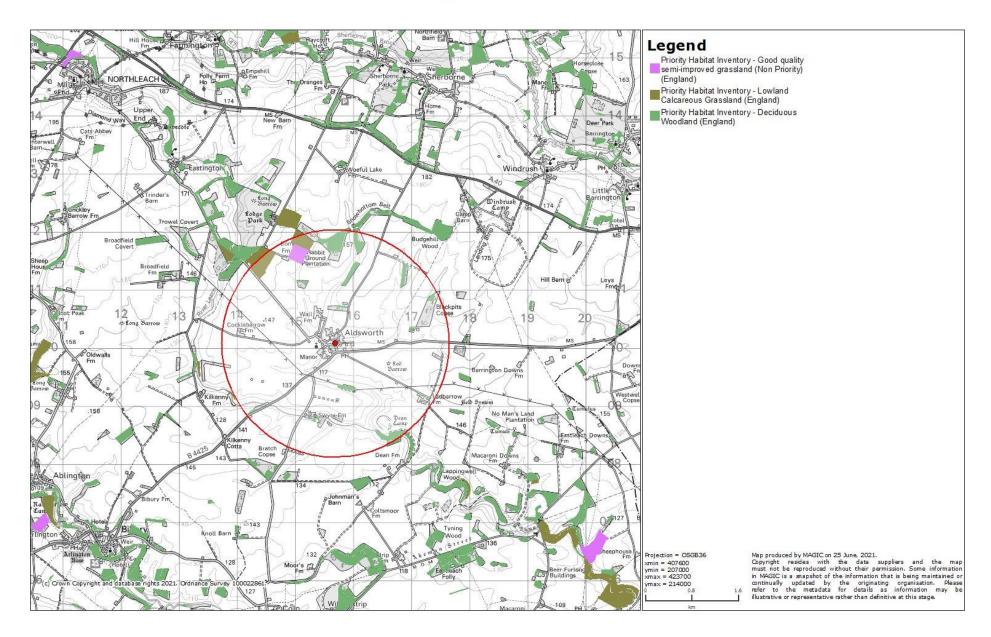
MAGiC

# **Designated sites**



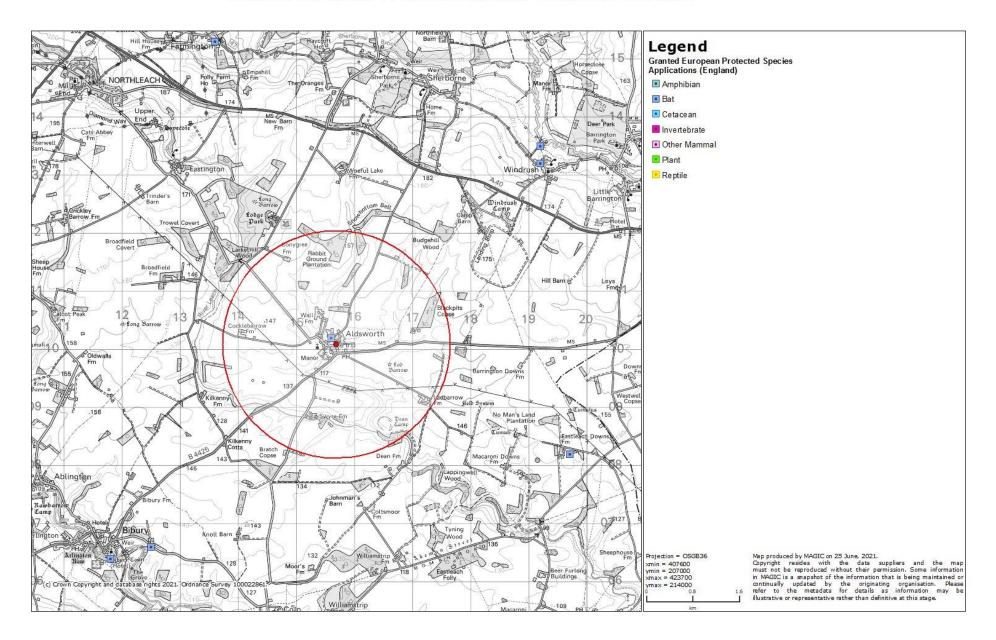
# MAGĩC

# **Priority habitats**



# MAGIC

# **Granted European Protected Species Mitigation Licenses**



# **Appendix 3: Legislation and Planning Policy related to bats**

# New legislation (2020)

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 came into force when Britain left the European Union on 31st January 2020. It covered amendments relevant to this survey to:

Wildlife and Countryside Act 1981: England and Wales (x1 amendment)

Conservation of Habitats and Species Regulations 2017 (x29 amendments)

# 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 43: Protection of certain wild animals - offences

- (1) A person is guilty of an offence if they:
  - (a) Deliberately captures, injures or kills any wild animal of a European protected species,
  - (b) Deliberately disturbs wild animals of any such species,
  - (c) Deliberately takes or destroys the eggs of such an animal, or
  - (d) Damages or destroys a breeding site or resting place of such an animal,
- (2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—
  - (a) To impair their ability:
    - (i) To survive, to breed or reproduce, or to rear or nurture their young; or
    - (ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
  - (b) To affect significantly the local distribution or abundance of the species to which they belong.

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

# NATIONAL PLANNING POLICY (ENGLAND)

#### Preliminary Roost Assessment

#### **National Planning Policy Framework 2017**

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 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.

#### Effect on development works:

A European protected species mitigation (EPSM) licence issued by 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).

There are 17 species of bat breeding in England and Natural England issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

1. include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;

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- 2. scientific and educational purposes,
- 3. ringing or marking
- 4. conserving wild animals

Development works fall under the first purpose and Natural England issues bat mitigation licences for developments.