



Preliminary Roost Assessment

103 Church Road, Reading, RG6 1HG

Steven Thomas

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Draft	1	Beth Ellison-Perrett BSc (Hons) MSc, MRSB, Consultant	01/11/2023
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Arbtech Consultant's Contact Details:

Beth Ellison-Perrett BSc (Hons) MSc MRSB
Consultant

Tel: 07874871277 **Email:** beth@arbtech.co.uk

Arbtech Consulting Ltd

<https://arbtech.co.uk>

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Steven Thomas to undertake a Preliminary Roost Assessment (PRA) at 103 Church Road, Reading, RG6 1HG (hereafter referred to as “the site”). The survey was required to inform a planning application for a side extension to the dwelling (hereafter referred to as “the proposed development”).

The following is work you will need to commission to comply with planning policy and legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 6 of this report.

Building	Survey Results Summary	Impact Assessment	Recommendations
Roosting bats (B1)	B1 as a whole has low habitat value for roosting bats due to raised roof tiles and raised hanging tiles on the eastern elevation. However, the area to be affected by the proposed plans (the northern elevation) has negligible habitat value due to a lack of suitable features.	The proposed development will not affect any of the features that could be used by roosting bats which were noted on the building during the survey and therefore no impacts to bat roosts are anticipated. However, the proposed development could result in disturbance to any bats present in the building at the time of the works due to noise, vibration or lighting.	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Steven Thomas to undertake a Preliminary Roost Assessment (PRA) at 103 Church Road, Reading, RG6 1HG (hereafter referred to as “the site”). The survey was required to inform a planning application for a side extension to the dwelling (hereafter referred to as “the proposed development”). A plan showing the proposed development will be provided in Appendix 1 when available.

The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting. This has been undertaken with due consideration to the “Bat Surveys for Professional Ecologists —Good Practice Guidelines” publication (Collins, 2016). No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author’s knowledge, by any other consultancy.

1.2 Site Location and Landscape Context

The site is located at National Grid Reference SU 74625 72556 and has an area of approximately 0.07ha comprising vegetated garden and one building. It is surrounded by residential dwellings within the towns of Reading to the west, Earley to the south and Woodley to the east, with woodland and reservoirs to the east, the river Thames to the north and arable field south. A site location plan is provided in Appendix 2.

1.3 Scope of the Report

This report provides a description of all features suitable for roosting, foraging and commuting 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 possible constraints to the proposed development as a result of 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. To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken, including an inspection of built structures, to determine the presence or the suitability of any features which bats could use for roosting and to assess the suitability of the site’s bat foraging and commuting habitat.
- An outline of potential impacts on any confirmed or unidentified roosts has been provided, based on the proposed development.
- Recommendations for further surveys and mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) application if appropriate.
- Opportunities for the enhancement of the site for roosting, foraging and commuting bats have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a 2km radius review of statutory designated sites with bat qualifying interests and granted EPSL 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.

2.2 Field Survey

The survey was undertaken by Beth Ellison-Perrett BSc (Hons) MSc, MRSB, Consultant (2023-11066-CL17-BAT) on 25th October 2023.

The PRA focussed on one built structure which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

For any surveyed buildings:

A non-intrusive visual appraisal was undertaken from the ground, using binoculars to inspect the external features of the building for features which bats could use for roosting, including access or egress points and for signs of bat use including droppings, scratch marks, insect remains and urine smear marks. An internal inspection of the building was also made, including the living areas and any accessible roof spaces, using a 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

Built structures were categorised according to the likelihood of bats being present and the types of roost that the identified features could support. This is summarised in Table 1 below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 1: Features of a building that are correlated with use by bats

Classification	Feature of building and its context
High	Buildings or structures with features of particular significance for larger numbers of 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 with 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). Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.

Moderate	Buildings or structures with one or more features suitable for more regular roosting due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation value such as maternity or hibernation roosts. Continuous habitat connected to the wider landscape which could be used by bats for commuting such as lines of trees, linked gardens. Foraging habitat in the surrounding area such as trees, scrub, grassland or water.
Low	Buildings or structures with one or more features suitable for use sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities or upwards orientation with exposure to inclement weather or predators. Habitat suitable for foraging in close proximity, but largely isolated in the landscape. Or an isolated site not connected by prominent linear features.
Negligible	Unsuitable for use by 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. Bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time.

There were no specific limitations to the survey.

A search for historical bat records has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for bats, it is not anticipated that the purchase of historical records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

No proposed development plans were available at the time of writing this report and therefore a detailed impact assessment could not be made. This report should be updated once the plans are available.

These limitations have been taken into account during the evaluation of the site and requirement for further surveys and mitigation.

3.0 Results and Evaluation

3.1 Designated Sites

Details of any statutory designated sites with bat qualifying interests within a 2km radius of the site, including their reasons for notification, are provided in Table 2 below.

Table 2: Statutory designated sites with bat qualifying interests within 2km radius of the site

Designated site name	Distance from site	Reasons for notification from Natural England
Highwood Local Nature Reserve (LNR)	200m east	The site has exotic tree species which were part of an arboretum (collection of trees) in the house grounds and include giant redwoods and monkey puzzle. It is a fine example of mixed lowland woodland with an attractive heathland area.
Maiden Eriegh Park Local Nature Reserve (LNR)	1420m south	Habitats include lowland mixed deciduous woodland, ancient semi natural woodland and eutrophic open water.

3.2 Historical Records

A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km 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 licensed site. EPSL records for bats are summarised in Table 3.

Table 3: Granted EPSLs for bats within 2km of the site

EPSL reference	Bat species affected	Impacts allowed by licence
2015-17476-EPS-MIT 2015-17476-EPS-MIT-1 2015-17476-EPS-MIT-2	Brown long-eared bat and soprano pipistrelle	Destruction of a resting place
EPSM2012-4390	Brown long-eared bat	Destruction of a breeding site
EPSM2012-4478	Common pipistrelle and soprano pipistrelle	Destruction of a resting place
EPSM2012-4144	Common pipistrelle, soprano pipistrelle and brown long-eared bat	Destruction of a resting place
EPSM2010-2126	Common pipistrelle	Destruction of a resting place
2020-48353-EPS-MIT	Soprano pipistrelle	Destruction of a resting place
EPSM2010-2266	Common pipistrelle and brown long-eared bat	Destruction of a breeding site
2014-500-EPS-MIT	Common pipistrelle and soprano pipistrelle	Destruction of a resting place
2014-441-EPS-MIT	Common pipistrelle and soprano pipistrelle	Destruction of a resting place
2014-3941-EPS-MIT 2014-3941-EPS-MIT-1 2014-3941-EPS-MIT-2	Common pipistrelle and soprano pipistrelle	Destruction of a resting place

3.3 Field Survey Results

The weather conditions recorded at the time of the survey are shown in Table 4. The results of the field survey are detailed in Table 5 and illustrated in Appendix 3.

Table 4: Weather conditions during the survey

Date:	25/10/2023
Temperature	10°C
Humidity	89%
Cloud Cover	100%
Wind	8mph
Rain	None

Table 5: PRA Results

Feature	Description	Photographs
Bat foraging and commuting habitat	Habitats onsite include hedgerows and scattered trees which could be used by foraging and commuting bats. In addition, to the east of the site is an area of woodland (Highwood Local Nature Reserve) which could be utilised by foraging, commuting and roosting bats.	

B1 – northern
and eastern
elevations

B1 is a detached two-storey brick-built building with a pitched and hipped roof clad in clay roof tiles. The roof tiles are in relatively good condition with only a few raised tiles (approximately 3 on the eastern elevation). The remaining roof tiles are in very good condition.

The brickwork around the building appears in excellent condition with no gaps or cracks within which crevice-dwelling bats could roost.

There are hanging tiles on the eastern elevation which are in relatively good condition, with the exception of the edge tiles which have gaps in where bats could roost. However, the holes were checked with a torch and no evidence (including urine stains, fur stains, bat droppings or bats themselves) was observed. Furthermore, these hanging tiles will not be affected by the proposed plans.

The northern elevation is the only elevation on B1 which will be affected by the proposed plans.



B1 – southern elevation	There are UPVC soffits and fascia around the building which are generally in good condition. There is one chimney located on the roof of the building. The brickwork on the chimney is in good condition. There is lead flashing around the base of the chimney which is flat and without gaps.	
B1 – western elevation	There are flat roof sections located on the western elevation of the building and in the middle of the main roof. The flat roofs are bitumen felt lined and are in very good condition with no gaps in which bats could roost. The doors and windows are UPVC and appear in excellent condition with no suitable bat roosting sites.	

B1 – interior	There is one loft space within the main roof void of B1. The roof structure is built from modern timber beams including the ridge beam. The roof is lined with bitumen felt and breathable roofing membrane which is in very good condition with no gaps or tears. The floor of the loft space is lined with mineral wool insulation and there are timber boards in places. There are cobwebs around the ridge beam and roof to floor cobwebs which could indicate a lack of internal flying activity from void dwelling bats, such as brown long-eared bats. No daylight enters the loft space which indicates that it is well sealed.	
B1 – suitability assessment	B1 as a whole has low habitat value for roosting bats due to raised roof tiles and raised hanging tiles on the eastern elevation. However, the area to be affected by the proposed plans (the northern elevation) has negligible habitat value due to a lack of suitable features.	N/A
B1 - breeding birds	None observed internally or externally on B1.	

4.0 Conclusions, Impacts and Recommendations

Taking the desk study and field survey results into account, Table 6 presents an evaluation of the value of the site for bats and also details any other ecological constraints identified such as nesting birds in relation to the proposed development which will comprise a side extension on the northern elevation to the dwelling.

Table 6: Evaluation of the site for bats and any other ecological constraints

Building	Survey Results Summary	Impact Assessment	Recommendations	Biodiversity Enhancement Opportunities ¹
Roosting bats (B1)	B1 as a whole has low habitat value for roosting bats due to raised roof tiles and raised hanging tiles on the eastern elevation. However, the area to be affected by the proposed plans (the northern elevation) has negligible habitat value due to a lack of suitable features.	The proposed development will not affect any of the features that could be used by roosting bats which were noted on the building during the survey and therefore no impacts to bat roosts are anticipated. However, the proposed development could result in disturbance to any bats present in the building at the time of the works due to noise, vibration or lighting.	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.	The installation of one bat box at the site will provide additional roosting habitat for bats. The bat box will be installed on a retained tree. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. The bat boxes will be a specification suitable for crevice dwelling bats such as woodstone bat box or a similar alternative brand.
Foraging and commuting bats	Hedgerows and scattered trees could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: Planting of native tree, shrub and hedgerows to increase foraging opportunities.

¹ The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).

Nesting birds (B1)	The building offers no opportunities for nesting birds.	None.	None.	The installation of a minimum of one bird box on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds e.g. Woodstone Nest Box Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.
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5.0 Bibliography

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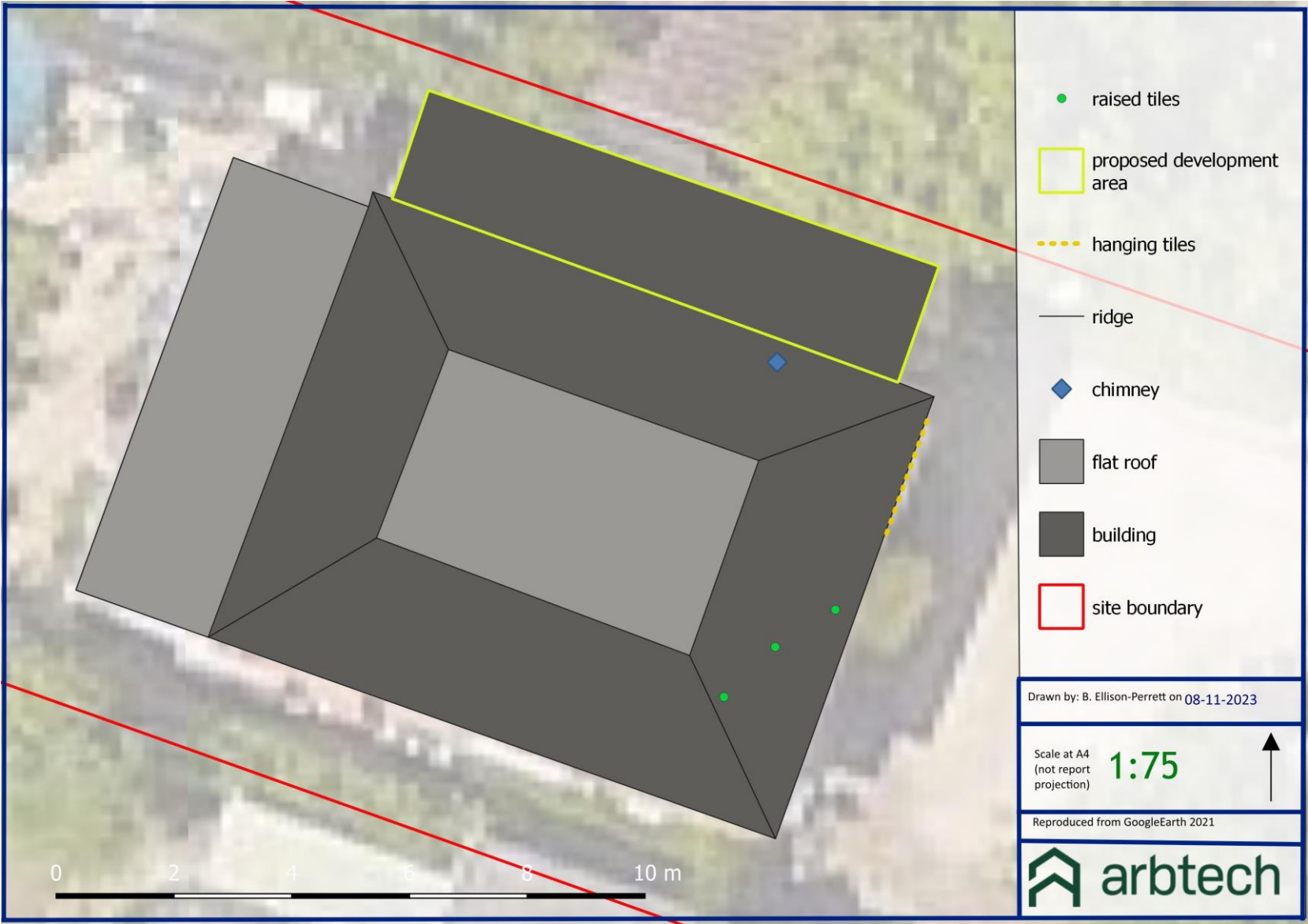
Appendix 1: Proposed Development Plan

Not available at the time of writing this report.

Appendix 2: Site Location Plan



Appendix 3: PRA Plan



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* (as amended) 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

National Planning Policy Framework 2021

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 species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) 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; measurable gains in biodiversity in and around developments are incorporated; 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 OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) 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;
2. scientific and educational purposes;
3. ringing or marking; and,
4. conserving wild animals.

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

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.