



17 Kenilworth Avenue, Reading, Berkshire RG30 3DL

Andrew Hawkins

Bat Survey - Preliminary Roost Assessment

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Executive Summary

Arbtech Consulting Ltd. undertook a Preliminary Roost Assessment at 17 Kenilworth Avenue, Reading, Berkshire RG30 3DL. The aim of the assessment was to consider the value and suitability of the structures for roosting bats. The development proposals comprise an extension above the garage and on two stories at the rear.

Building reference	Likelihood of bats being present	Recommendations for further survey and assessment
B1	Confirmed roost	Two dusk emergence and one dawn re-entry survey are required in order to characterise the roost in the loft and in the hanging tiles at the front of the building. Two surveyors are required to provide full coverage of the building. The surveys should take place within the active bat season between May and September and be spaced at least two weeks apart. At least two of the surveys should take place between May and August.

The survey concluded that B1 is a confirmed roost. Further surveys are required between May and September.

1.0 Introduction and Context

1.1 Background

Arbtech were commissioned by Andrew Hawkins to undertake a Preliminary Roost Assessment (PRA) at 17 Kenilworth Avenue, Reading, Berkshire RG30 3DL. The assessment is informed by the Bat Conservation Trust publication *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins 2016).

This is the first survey carried out by Arbtech for this 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 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 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 a bat records request from Berkshire and South Buckinghamshire Bat Group.
- 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.

A survey plan is presented in Appendix 1, the proposed Project Plan can be found in Appendix 2 and photographs taken during the site survey are included in Appendix 3. A summary of relevant legislation is included in Appendix 4, and desk study results are provided in Appendix 5.

1.3 Site Context

The site is located at National Grid Reference SU699724. There is one building subject to survey within the site boundary. The site lies within a residential area in Southcote.

1.4 Project Description

This report is prepared in support of a planning application.

The development proposals comprise an extension above the garage and on two stories at the rear. 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 have been requested from Berkshire and South Buckinghamshire Bat Group.

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.
- Designated sites information found on Natureonthemap.naturalengland.org.uk
- Information on the surrounding area using OS Opendata 2010

2.2 Site Survey

The survey was undertaken by Natalie Evans, Bat Licence England: 2016-11257-CLS-CLS, on 29th September 2016.

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 living areas of derelict or abandoned buildings and the 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.

2.2.1 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 buildings were categorised according to the likelihood of bats being present, in line with best practice guidelines (Collins 2016); the features of the building that dictate the likelihood of roosting bats are summarised in Table 1. 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 during the summer

Likelihood of bats being present	Feature of building and its context
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 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).
Lower	A small number of possible roost sites/features, used sporadically by more widespread species. Habitat suitable for foraging in close 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.

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.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results are provided below.

3.1.1 Designated sites

Lousehill Copse Local Nature Reserve (LNR) lies approx. 1.5km north west. Semi-ancient woodland surrounded by housing. Mature oak and hazel woodland with some coppice. There are many bluebells and other spring flowers, streams, relics of old ponds and boggy areas. The site is on sand and gravel. There is an open meadow with gorse and broom in the northern section. (Natural England)

3.1.2 Landscape

The following notable habitats are present within 2km: deciduous woodland, woodpasture and parkland and floodplain grazing marsh. These are likely to be considered as habitats of principal importance and are of particular value to bats.

A review of aerial photographs (Figure 1) and OS maps shows the site has excellent connectivity to valuable resources in the local environment through the adjacent railway line to the east and tree lined roads and gardens. The site itself is in a dense residential environment however.

Figure 1: Aerial photo of site, showing landscape structure



3.1.3 Historical records

Bat records from BSBBG have been obtained. A search of the Magic database for granted European Protected Species Licences (EPSL) has been included. Records are summarised below.

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

Species	Record type
Common pipistrelle <i>Pipistrellus pipistrellus</i>	EPSL destruction of a resting place 2013 approx. 1.6km south east. Roost records (BSBBG)
Brown long eared <i>Plecotus auritus</i>	Bat detector record (BSBBG)
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	EPSL destruction of a breeding site 2011 approx. 250m west. Injured bat and bat detector record (BSBBG)
Serotine <i>Eptesicus serotinus</i>	Bat detector records (BSBBG)
Daubenton's <i>Myotis daubentonii</i>	Bat detector records (BSBBG)
Noctule <i>Nyctalus noctula</i>	Bat detector records (BSBBG)
Unidentified pipistrelle <i>Pipistrellus sp</i>	Roost records including maternity (BSBBG)
Unidentified long eared <i>Plecotus sp</i>	Roost record (BSBBG)
Unidentified bat species <i>Chiroptera sp</i>	Roost records (BSBBG)

There are numerous roost records of bat species in the local area, some of which could be present on site such as pipistrelle, long eared and myotis species. The loft is likely to support a small brown long-eared roost, and hanging tiles could support pipistrelle or myotis bat species.

3.2 Survey Results

The buildings covered in this report comprise an occupied dwelling and attached garage.

The site map is included in Appendix 1.

Weather conditions at the time of the survey:

Temperature	17°C
Humidity	65%
Cloud	100%
Wind	4/8
Rain	0

B1 – Residential dwelling house

Building description

External:

The building is a two storey, semi-detached dwelling of brick construction (photo 1). The roof is hipped, and clad in clay tiles. At the front of the building here is a two storey gabled bay window with clay hanging tiles (photo 1 and 2). At the rear there is a conservatory and a small clay tiled sub roof (photo 3). On the southern elevation there is an attached garage with a flat lead roof. There is a single chimney which site between the two adjoining properties. Features suitable for bat use:

- The hanging tiles at the front of the building are raised, providing ideal roosting crevices for bats (photo 2).
- There are gaps under the bay window gable end which provide roosting crevices and also access into the loft void (photo 1).
- The roof and ridge tiles have raised examples under which bats could roost or gain access into the loft void (photo 4).

Internal:

There is a single loft void which connects to the adjacent property with gaps in the brickwork for bat access between the two lofts (photo 6). The loft is approx. 6m in length and 9m in width with a ridge height of approx. 3.5m. The roof is lined with bitumen felt, through which there are gaps where bats could access the roof from under roof tiles. There are modern timber rafters and purlins and a ridge beam on which bats can roost. The loft extends out by a couple of meters where the bay window connects (photo 10). This has the same features but is only approx. 1.5m high. Daylight is visible around

the gable end where bats could access the loft. The garage does not provide any suitable roosting or access features. Internal conditions: 18.1°C and 73.9% humidity.

Bat evidence

Approx. 50 bat droppings were found in a general scatter under the ridge beam of the main loft space, stuck to the adjoining wall with next door and also in the bay window loft section (photos 7, 8, 9 and 11). The droppings appeared in good condition and are assessed to have been from the 2016 active bat season. The size, shape, location and quantity of the droppings are consistent with a small, non-breeding roost of brown long eared bats. At the front of the building, two pipistrelle type bat droppings were found stuck to the window frame below the raised hanging tiles (photo 2).

3.2.1 Breeding birds and other incidental observations

None found.

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 the building (Table 3).

Table 3: Evaluation of buildings/structures on site

Building reference	Likelihood of bats using the building for roosting	Brief summary of justification
B1	Confirmed roost	Bat droppings were found scattered in the loft void, assessed to be from a small non-breeding roost of brown long-eared bats that have been present in the last 6 months. Bat droppings located on window frames below the hanging tiles indicate a roost of crevice dwelling bats under the hanging tiles. This is also assessed to be used recently otherwise evidence would have been weathered away. The hanging tiles are most likely to be used by pipistrelle bats.

4.0 Conclusions and Recommendations

4.1 Conclusions and Impact Assessment

B1 is a confirmed roost with what is assessed to be a small, non-breeding brown long eared bat roost in the loft, and a small, non-breeding roost of common or soprano pipistrelles under the hanging tiles. Access into the loft roost could be gained through various points including under raised roof tiles, through gaps around the bay window gable end or even through next door's property. When the extension is added, access points may be blocked off on the roof structures which could prevent the roost being used and could entomb any bats present, potentially resulting in death. There will also be disturbance to the loft and hanging tile roosts which could lead to abandonment of the roosts.

Bats are protected under the Wildlife and Countryside Act and Conservation Regulations; see Appendix 3 for a summary of legislation protecting bats in the UK.

4.1.1 Breeding birds and other incidental observations

None found.

4.2 Recommendations

4.2.1 Survey and assessment

Best practice survey guidelines (Collins, 2016) recommend additional surveys for all buildings assessed as having low to high suitability for roosting bats. The survey effort recommended at this stage will provide sufficient information to inform European Protected Species Mitigation licensing (EPSML). Appropriate justification for this assessment is provided in Section 3.0 and Table 3 of this report.

Recommendations for further survey or assessment associated with the building are provided in Table 4.

Table 4: Survey recommendations

Building reference	Likelihood of bats being present	Recommendations for further survey and assessment
B1	Confirmed roost	Two dusk emergence and one dawn re-entry survey are required in order to characterise the roost in the loft and in the hanging tiles at the front of the building. Two surveyors are required to provide full coverage of the building (see appendix 1

		for surveyor locations). The surveys should take place within the active bat season between May and September and be spaced at least two weeks apart. At least two of the surveys should take place between May and August. Droppings should be sent for DNA analysis.
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5.0 Bibliography

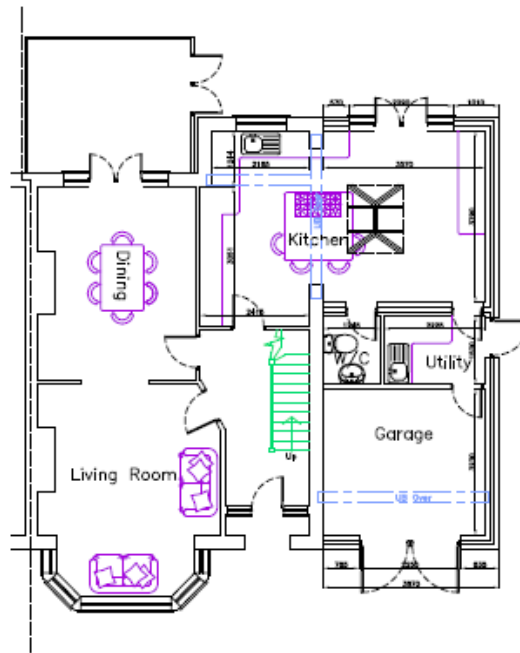
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- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
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Appendices

Appendix 1: Survey Plan

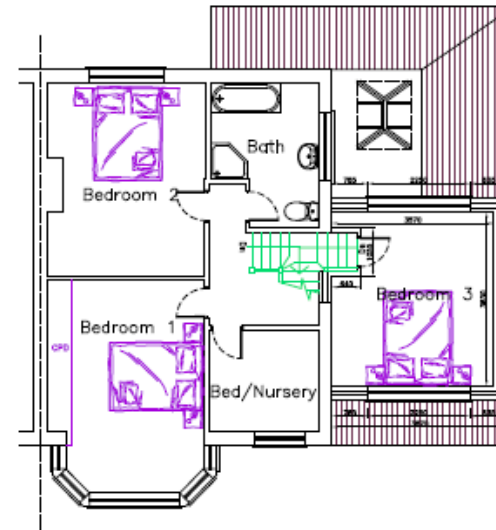


Appendix 2: Proposed Site Plan



Proposed Ground Floor

OPTION 1/2020



Proposed First Floor

OPTION 1/2020

OPTION 1/2020
17 KENILWORTH AVENUE
READING, BERKSHIRE
RG30 3DL
0118 987 1111
WWW.AHAWKINS.CO.UK



Proposed Front Elevation

OPTION 1/2020



Proposed Side Elevation

OPTION 1/2020



Proposed Rear Elevation

OPTION 1/2020



Proposed Rear Elevation

OPTION 1/2020



Appendix 3: Photographs



Photo 1: front of B1, western elevation. Location of bat droppings circled. Access point into loft shown with an arrow.



Photo 2: gap under hanging tile on the front bay window with a bat dropping directly beneath it.



Photo 3: rear of the building, eastern elevation.



Photo 4: gaps under ridge tiles on the rear of the building.



Photo 5: garage interior.



Photo 6: central loft space. Missing brickwork provides direct access into the neighbour's loft.



Photo 7: bat dropping in central loft space below the ridge.



Photo 8: bat droppings below joining wall.



Photo 9: bat dropping stuck to joining wall.



Photo 10: bay window loft area.



Photo 11: bat dropping scattered under the ridge of the bay window area.

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 2010 (as amended) 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

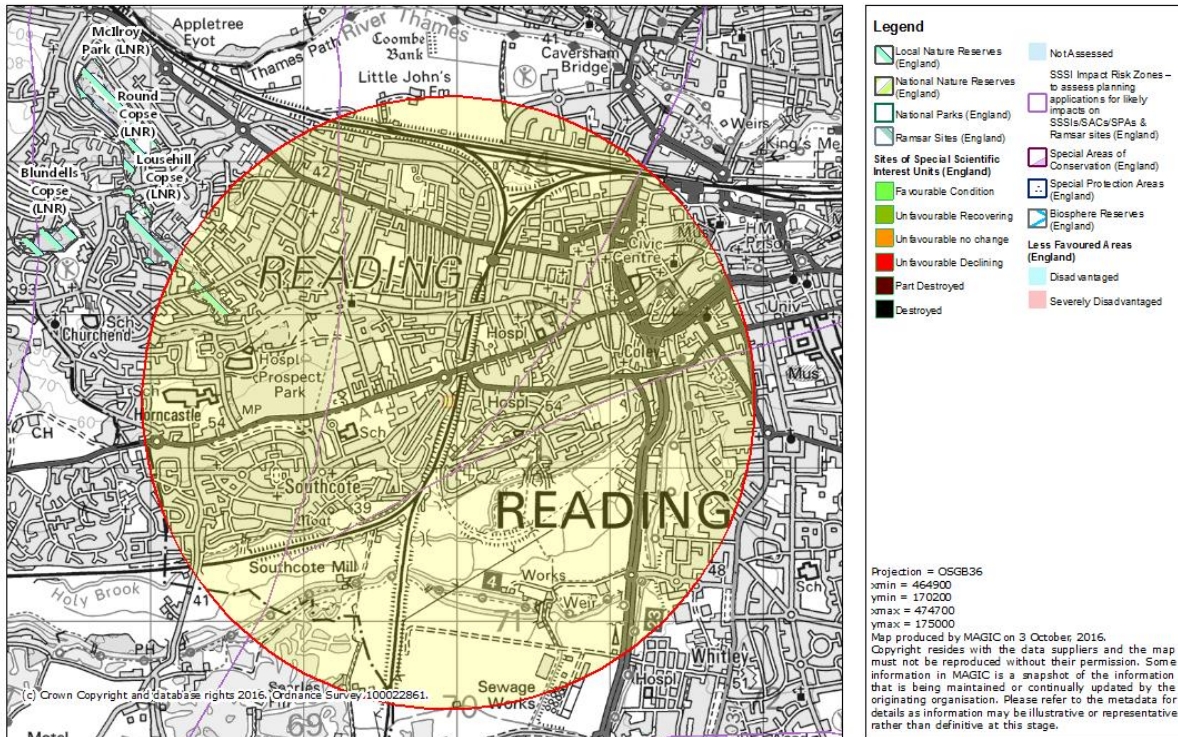
Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

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: MAGIC maps and EPSL's

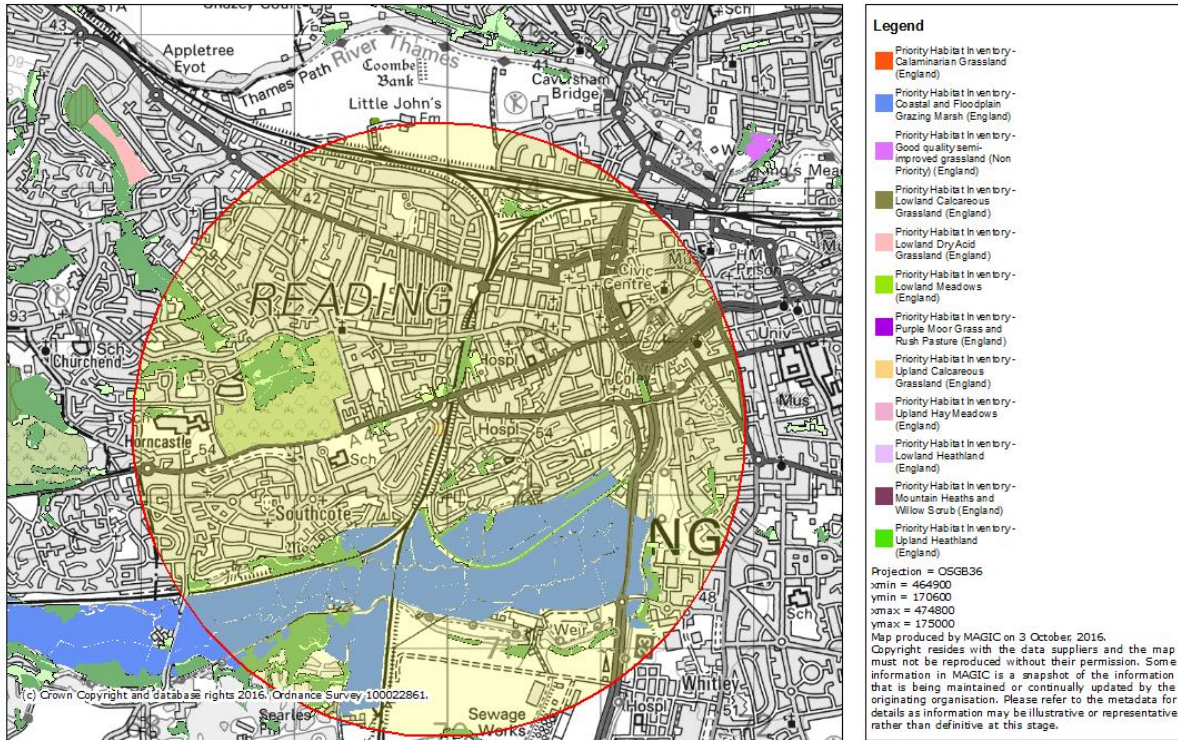
Designated sites:

MAGIC

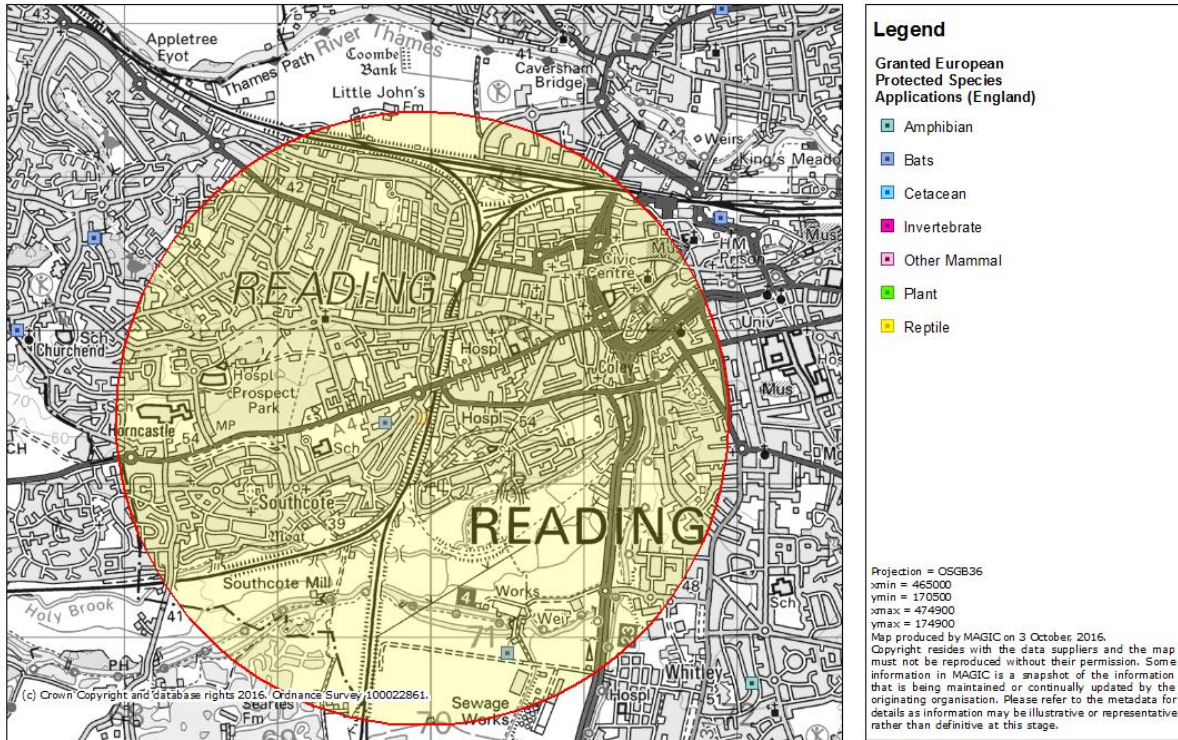


Priority habitats:

MAGiC



EPSL's

MAGIC

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