Leicester, Leicestershire and Rutland

Bats in Buildings Survey Protocol

Leicestershire and Rutland Environmental Records Centre (LRERC)
October 2021

Bat surveys of buildings and structures

Bats are a rare and declining group of species. Hence, all British species of bat are fully protected by *The Wildlife and Countryside Act 1981 (as amended)* and *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019,* making it an offence to intentionally or recklessly kill, injure or disturb these species, or to obstruct, damage or destroy their breeding or resting places (roosts). Since bats regularly move between roosts, a roost retains such designation whether or not bats are present at the time. Failure to comply with this legislation may result in prosecution and anyone found guilty of an offence is liable to a fine of up to £5,000 or to imprisonment for a term not exceeding six months, or both, per offence.

Bats frequently live in buildings and other structures, and may be harmed by development. The planning authority is required by law to check that your development does not harm bats.

If your proposed development falls into the criteria in Figure 2, a thorough visual check by a licensed bat worker of your building to look for evidence of the presence of bats, along with any further surveys required, must be carried out BEFORE your application can be determined. This applies to outline planning applications and full planning applications. This is for guidance only, as roost locations can be unpredictable, and we reserve the right to ask for a bat survey(s) if we consider that there is a reasonable likelihood of bats being affected by your proposal. Note that bat surveys of trees or foraging and commuting habitat are not covered by this protocol. Please refer to BCT's 2016 guidelines[1].

Bat surveys are requested in planning in order to reduce the risk to bats, with this protocol only covering the situations where bats are most commonly found. Bats are protected regardless of whether a survey has been completed and it is the responsibility of the applicant/developer to ensure that protected species legislation is followed.

Please note that this protocol is based on the Bat Conservation Trust's (BCT) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn) (2016)[1] which is due to be updated in 2022, when this protocol will also be updated accordingly.

Please note that a Bat Survey cannot be covered by a planning condition. This is in accordance with paragraph 99 of ODPM Circular 06/2005: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.*

How do bats use buildings?

With the loss of many natural roosting sites such as ancient trees over the years, bats have become dependent on roosting sites offered by man-made structures such as buildings, to the point that roosts in buildings are becoming vital for the survival of many bat species. Bats use roosts in buildings in many different ways, including for having their young, hibernating in winter or simply for roosting during the day. They also tend to move between roosts at different times of year, making them harder to detect. These important man-made roosting sites in buildings are increasingly under threat from demolition, renovations, artificial lighting and the move towards air-tight modern buildings.

Bats may roost in various features of a building, not just the roof space (see Figure 1). Bats are quiet and do not chew wires or make nests so you may not be aware of their presence in your property.

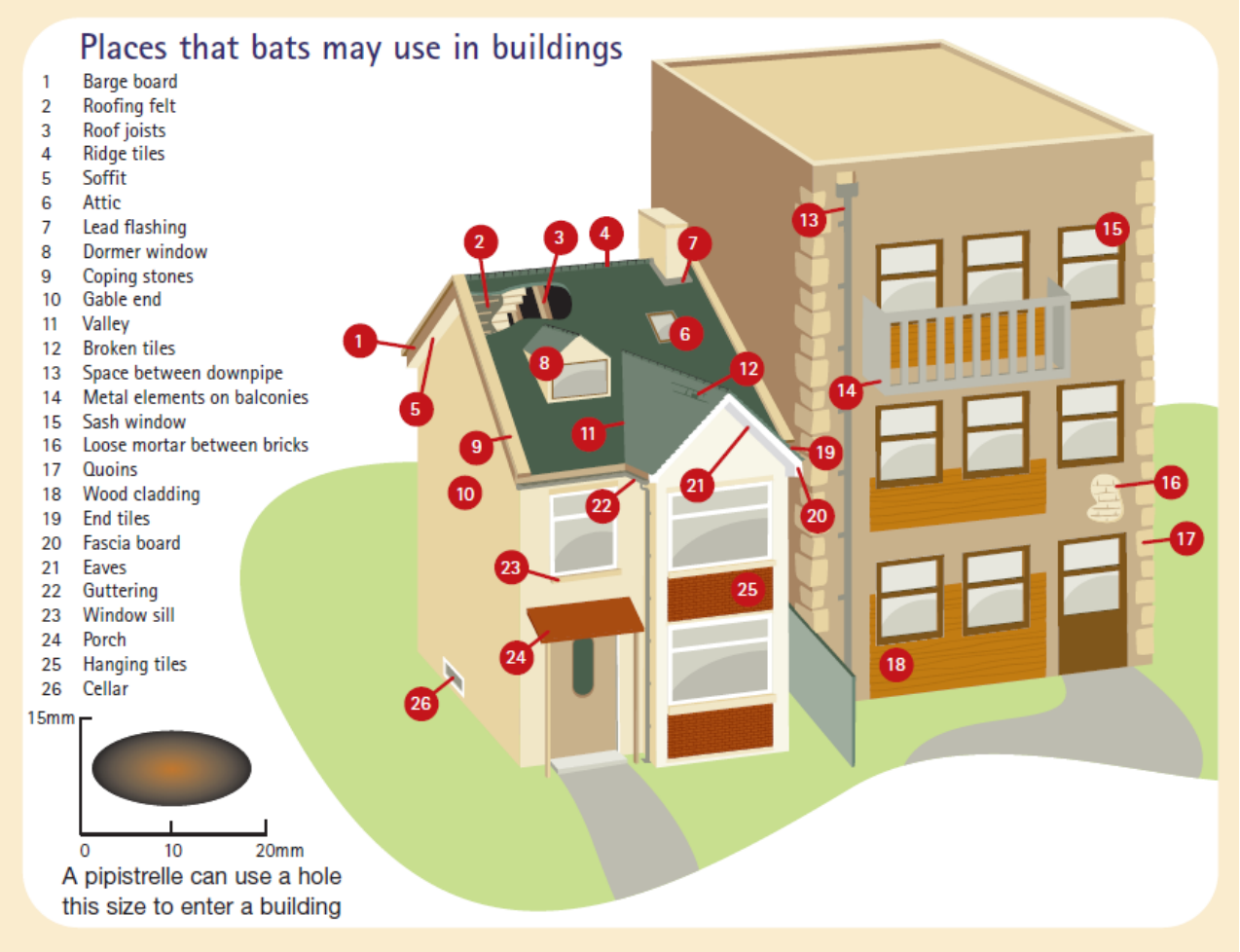

Figure 1: Places that bats may use in buildings (not to scale) (Bats and Buildings, 2015).

If you would like more information on how bats use buildings, see The Bat Conservation Trust's (BCT) *Bats and Buildings* leaflet[2], which can be found at their website. https://www.bats.org.uk/resources/publications-and-leaflets/leaflets

When is a bat survey of a building or structure needed to support a planning application?

The criteria below are considered by the planning authority and their ecology advisors when deciding if a bat survey of a building/structure is needed. This is for guidance only and we reserve the right to ask for a bat survey if we consider that one is required. The flowchart is summarised on the following page for users of screen reader technology.

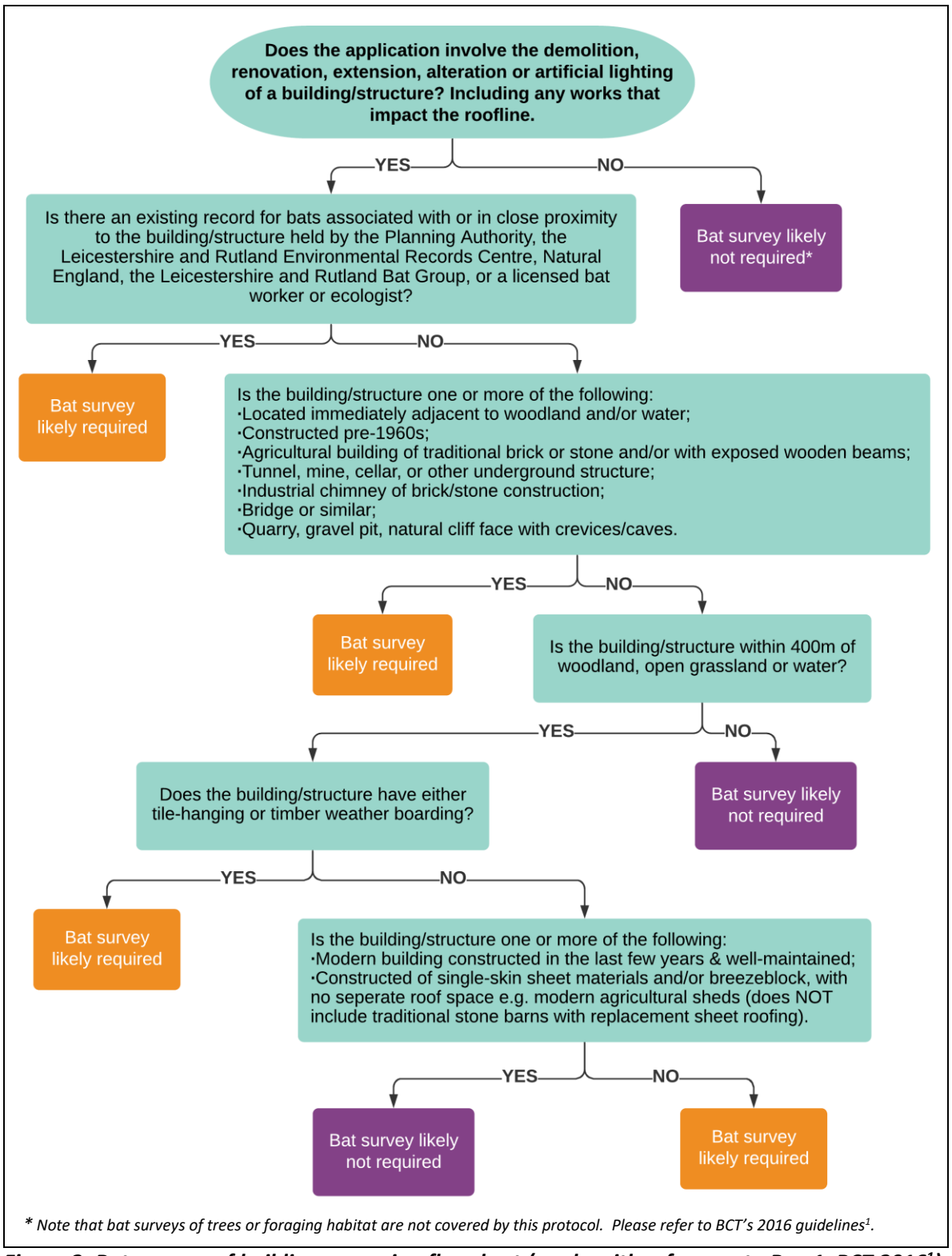

Figure 2: Bat surveys of buildings - scoping flowchart (made with reference to Box 1, BCT 2016[1]).

Text summary of bat surveys of buildings scoping flowchart:

If the application does not involve demolition, renovation, extension, alteration or artificial lighting of a structure, and does not affect the roofline, a bat survey of the structure is likely not required.

If there is an existing record for bats associated with or located in close proximity to the structure held by the Planning Authority, the Leicestershire and Rutland Environmental Records Centre, Natural England, the local bat group or a licensed bat worker or ecologist, a bat survey is likely required.

If the structure is any of the following, a bat survey is likely required: located immediately adjacent to woodland or water; constructed pre 1960; agricultural building of traditional brick or stone and/or with exposed wooden beams; tunnel, mine, cellar, or other underground structure; industrial chimney of brick or stone construction; bridge or similar; quarry, gravel pit, natural cliff face with crevices or caves.

If the structure has not fallen into the above categories and is not within 400 metres of woodland, open grassland or water, a bat survey is likely not required.

If the structure has either tile-hanging or weather boarding, a bat survey is likely required.

If the structure is not one of the following, then a bat survey is likely required: modern building constructed in the last few years and well-maintained; constructed of single-skin sheet materials and breezeblock with no separate roof space e.g. modern agricultural sheds (this does not include traditional stone barns with replacement sheet roofing as these are likely to need bat surveys).

What does a bat survey of a building or structure involve?

1. If a bat survey is required – Initial Check

- The first step is a thorough visual check. This is an exhaustive internal and external inspection of the building to look for evidence of bats – such as bat droppings and roost entrance/exit holes. It is important that the bat worker has access to the roof space and all parts of the building affected by the proposed development. This initial survey will also categorise the building as either negligible, low, moderate or high potential suitability for roosting bats (see Table 2), unless evidence of bats is found in which case the ecologist will confirm the presence of roosting bats (a confirmed roost) – see Section 5.

- This initial survey will also determine whether further surveys are required, as well as what types of survey are needed, for example winter hibernation.

- This can be done at any time of the year. The check MUST be done under the direct supervision of an appropriately licensed bat worker. The licence must be current and at least a Level 1 survey or research licence. https://www.gov.uk/government/publications/bats-licence-to-disturb-or-take-bats-for-science-or-conservation

- The visual check survey report must be submitted to the planning authority BEFORE your planning application can be determined.

Table 2: Guidelines for assessing the potential suitability of a building/structure for roosting bats (BCT 2016[1])

Suitability	Description
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. Unlikely to be suitable for maternity or hibernation[b]).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat.

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

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

2. If no evidence of bats is found and building has negligible potential to support bats

- If the bat worker finds no evidence of bats and considers that the building has negligible potential to support bats following a thorough visual check, no further survey work is

required at this stage. **If bats are subsequently discovered, stop works and seek expert advice from a licensed bat worker.**

- Surveyors will need to demonstrate that thorough checks have been carried out.

3. <u>If no evidence of bats is found and building has low potential to support bats</u>

- If the bat worker finds no evidence of bats and considers that the building has low potential to support bats, then further survey(s) are likely to be necessary if impacts to the roosting habitat are predicted. If the bat worker makes a professional judgement that further activity surveys are not required, sufficient evidence must be presented in the survey report to justify this decision (Section 5.2.9: BCT 2016[1]). This will depend on the individual circumstances of the site and whether sufficient areas of the structure could be accessed for inspection.

- If there is a reasonable likelihood that bat roosts may be present, then further activity surveys may be needed. These must be carried out BEFORE the planning application can be determined.

- Activity surveys look for bats leaving the building at dusk and re-entering at dawn. A single survey is likely to be required to demonstrate likely absence for a building of low bat potential, and this can only be carried out from May to August, inclusive (see Tables 3 & 4). Any deviation from these recommended timings must be fully justified in the survey report. The survey must be done under the direct supervision of an appropriately licensed bat worker.

- The need for an emergence survey may delay consideration of your application as they cannot be the subject of a planning condition.

- The completed survey report must be submitted to the planning authority BEFORE your planning application can be registered. If bats are found to be present, see Section 5. If bats are confirmed to be absent, no further survey work is required at this stage.

Table 3: Recommended survey effort to give confidence in a negative result (BCT 2016[1])

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey[a] (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.[b]	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.[b]

[a] Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

[b] Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Table 4: Recommended survey timings to give confidence in a negative result (BCT 2016[1])

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September[a] with at least one of surveys between May and August[b]	May to September[a] with at least two of surveys between May and August[b]

[a] September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

[b] Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

4. <u>If no evidence of bats found, but building has moderate or high potential to support bats</u>

- The bat worker may not find any evidence of bats after a visual check, but considers that the building has moderate or high potential to support bats. This may be because the surveyor cannot get access to all of the building, especially the roof space. The surveyor may record that features are present which have a moderate to high likelihood of harbouring bats, but which cannot be checked visually (e.g. soffits, cavity walls, the space between roof covering and roof lining, under hanging tiles). Pipistrelle bats frequently roost in cavity walls and between roof covering and roof lining, for example, and do not usually enter roof voids. Evidence of their presence can be difficult to find when they are not active.

- In these cases, further surveys will be required before the application can be determined.

- Activity surveys look for bats leaving the building at dusk and re-entering at dawn. 2 or 3 surveys are likely to be required for a building of moderate or high potential respectively and these can only be carried out from May to 15th September, with at least 1 (moderate) or 2 (high) surveys between May and August (see Tables 3 & 4). Any deviation from these recommended timings must be fully justified in the survey report. The surveys must be done under the direct supervision of an appropriately licensed bat worker.

- The need for activity surveys may delay consideration of your application as they cannot be the subject of a planning condition.

- If potential has been identified for a structure to support hibernating bats, then winter hibernation surveys will be required. These should be undertaken between December to February by an appropriately licenced ecologist (Level 2 or above). The survey requires close and systematic inspection of all cracks, crevices and voids for hibernating bats. Bats should be identified with minimal disturbance to avoid arousing them from torpor. Hibernating bats must not be handled, except in an emergency event where the bat is in danger. Automated/static surveys for winter activity within structures with a moderate to high likelihood of bats being present should be undertaken for a minimum of two weeks in each month from December to February.

- The completed survey report must be submitted to the planning authority BEFORE your planning application can be registered. If bats are found to be present, see Section 5. If bats are confirmed to be absent, no further survey work is required at this stage.

5. If bats are confirmed to be present

- If evidence of bats is found during the initial visual check, further activity surveys will usually be needed to characterise what type of roost is present, what impact the proposals may have and what mitigation is required. These can only take place from May to 15th September, inclusive. These must be done under the direct supervision of an appropriately licensed bat worker, and sufficient surveys must be undertaken to characterise the roost identified during the initial check, as well as to be confident of the presence/likely absence of other bat species in the building.

- If bats are recorded during the presence/absence activity surveys described in Sections 3 & 4, further activity surveys may occasionally be needed to characterise the roost, what impact the proposals may have and what mitigation is required. These can only take place from May to 15th September, inclusive. These must be done under the direct supervision of an appropriately licensed bat worker.

- The surveys will inform a **Bat Mitigation Plan (see Appendix 1 for guidance)**. The Bat Mitigation Plan and the survey report must be submitted to the planning authority BEFORE your planning application can be determined.

- Where proposals cannot demonstrate that the favourable conservation status of bats will not be adversely affected by the proposal through adequate avoidance, mitigation and/or compensation measures; it is likely that the proposal will be refused.

- The Bat Mitigation Plan MUST be drawn up by a bat worker with an appropriate survey or research licence, and you must agree to follow it.

- The Bat Mitigation Plan will be referred to in a planning condition applied to your planning permission. Failure to follow the Bat Mitigation Plan or a planning condition may result in enforcement action against you, you may also be in breach of relevant wildlife legislation and subject to prosecution.

- Your development may require a European Protected Species licence from Natural England before it can proceed; in addition to planning permission. Your bat worker will advise you. https://www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence

- Generic or 'worst case scenario' mitigation plans submitted instead of a survey report are not acceptable.

Notes for Consultants:

- Bat detectors have improved significantly over time and heterodyne detectors alone are no longer acceptable for commercial surveys, which should be carried out using broad-band detectors (Appendix 2: BCT 2016[1]). This is because heterodyne bat detectors can only convert a narrow band of frequencies and have to be continually retuned, so can easily miss species outside of its current tuned range. We also prefer surveys to be carried out with the use of detectors which can digitise and store entire bat calls (even if still in combination with heterodyne detectors) so that a record of any calls is held, ensuring nothing is missed and calls can be reviewed/checked at a later date.

- It is important that the number and arrangement of surveyors is sufficient to cover the entire building/structure being surveyed, with surveyors able to thoroughly observe all potential access points, ideally during a single survey, and this should be checked by those assessing surveys and reports. Generally, one surveyor can only observe two sides of a simple structure, from the corner, and their ability to do so reduces as the complexity and size of the structure increases or where observation is obscured by obstacles. Therefore, more complex/large structures require more surveyors. If fewer surveyors are available, it may be necessary to visit the site over several consecutive nights to cover all areas, standing at different locations each time (collectively considered to be one survey visit) (Section 7.1.4: BCT, 2016[1]).

- Surveyors should be stationary to avoid bats being missed. One or two surveyors walking around a large site are unlikely to pick up individual bats or small roosts and could even miss larger roosts and is not appropriate (Section 7.1.4: BCT, 2016[1]).

- We recommend that reports include annotated plans/photographs showing surveyor locations, building references, and when positive results are recorded, locations of roosts, entry/exit points and evidence of bats, as appropriate. This is may prevent us needing to ask for clarification or further information and therefore avoid delays.

How long is a bat survey valid for?

Positive bat surveys

Bat surveys that find evidence of bats are only valid for two survey seasons, or until another different application is made, whichever is the shorter period. Note that our validity requirements may differ from those required by Natural England when applying for a mitigation licence. https://www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence

A survey season is between 1st May and 15th September inclusive, so if an application is unchanged, a bat survey carried out in June 2018 should be updated with emergence surveys between 1st May to 15th September inclusive, in 2020. This is to check whether the bats have changed their roost location, or whether a new species has moved in, or whether numbers and types of roost have changed.

Changed circumstances could require changes to mitigation. If the Bat Mitigation Plan is subject to a planning condition, changes must be approved in writing by the Planning Authority, backed up with a supporting survey report.

If the type or scale of the proposed development changes, the mitigation needed might also change, therefore the Bat Mitigation Plan may need to be revised and re-submitted.

Negative bat surveys

Bat surveys which find a building/structure to have negligible potential to support roosting bats are usually valid indefinitely, unless the situation on site changes significantly e.g. the building becomes unoccupied and unmaintained during this period.

Negative bat surveys of buildings/structures with low to high potential to support roosting bats are valid for up to 2 years in support of a planning application, and will last for the duration of the planning permission. As bats are highly mobile animals that can change roosts regularly, it is possible that bats may take up occupancy in a building that has not been recorded as a roost previously.

A negative bat survey can be updated with a thorough visual check at any time of year. If evidence of bats is then found, or if evidence is not found but the bat surveyor feels that there is a medium to high risk of bats being present, further activity surveys will also be required.

Leicestershire and Rutland Environmental Records Centre
Room 200,
County Hall
Glenfield LE3 8RA
0116 305 4108
planningecology@leics.gov.uk
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Bibliography:

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

2. The Bat Conservation Trust (2015) *Bats and Buildings*. The Bat Conservation Trust, London.

3. English Nature (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

4. Natural England and DEFRA (2020) *Bats: surveys and mitigation for development projects*, Accessed November 2020, <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects#mitigation-and-compensation-methods>

Appendix 1: Bat Mitigation Guidance

If a bat roost is found to be present at the application site and will be affected by the proposed works, a Bat Mitigation Plan must be produced by a bat worker with an appropriate survey or research licence and submitted to the Planning Authority before your planning application can be determined. The Bat Mitigation Plan must be proportional to the findings of the survey, with the level and type of mitigation dictated by the species and numbers of bats, and the type of roost. This should follow the guidance in Figure 3 below.

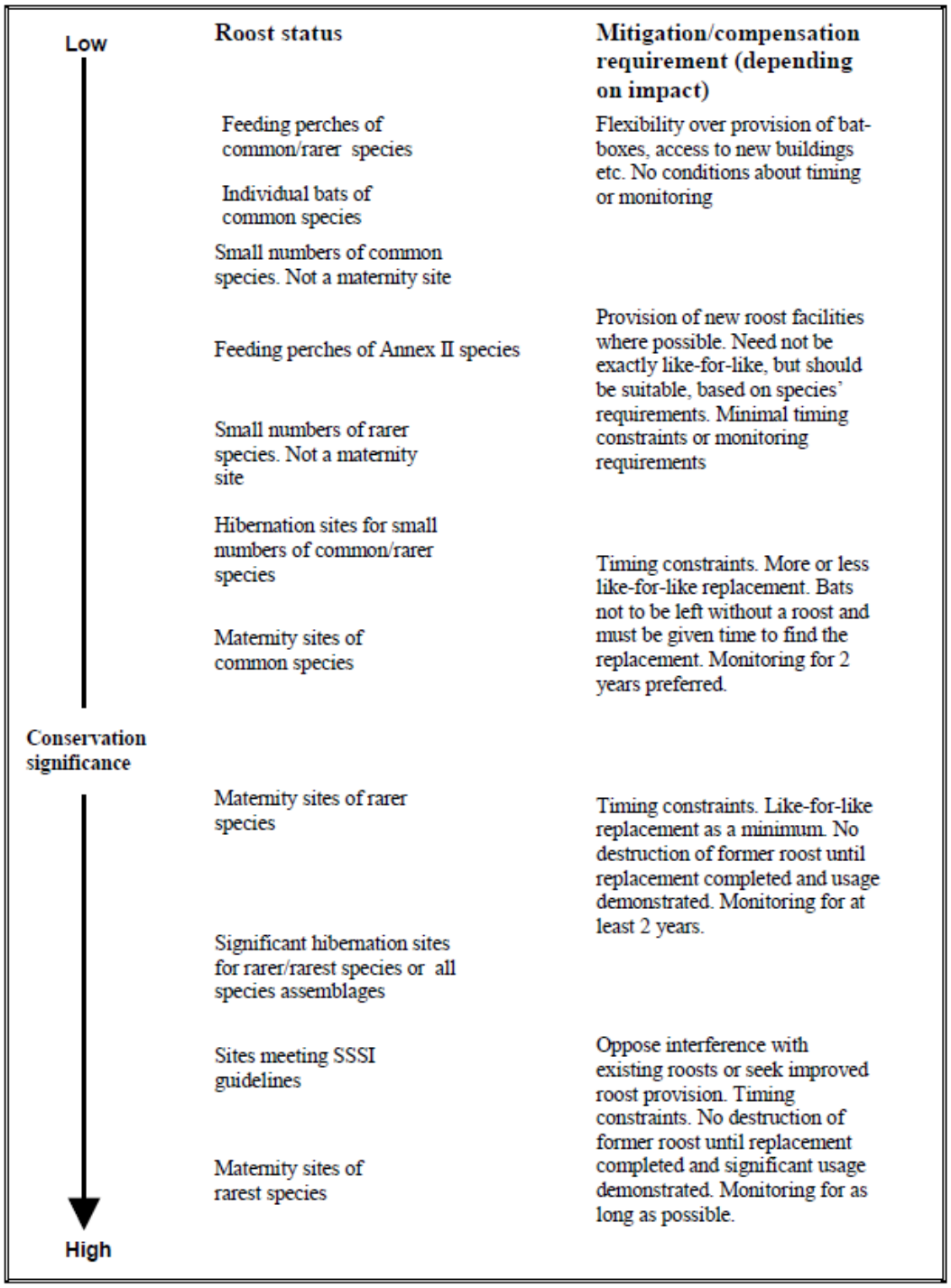

Figure 3: Guidelines for proportionate mitigation based on conservation status of species (Bat Mitigation Guidelines, 2004[3]).

Table 5: Conservation status of bat species in Leicestershire & Rutland (VC55) (taken from J Harris, January 2013)

Species	Conservation status in VC55
Common pipistrelle - *Pipistrellus pipistrellus*	Widespread, common and found foraging in a wide range of habitats throughout VC55.
Soprano pipistrelle - *Pipistrellus pygmaeus*	Widespread, common, especially in or near woodland and wetland habitats.
Brown long-eared bat - *Plecotus auritus*	Widespread, common, but probably declining because of changes in the traditional buildings that are used for breeding.
Daubenton's bat - *Myotis daubentonii*	Widespread. Known maternity and hibernation sites in VC55.
Whiskered bat - *Myotis mystacinus*	Uncommon but widespread. Known maternity and hibernation sites in VC55.
Natterer's bat - *Myotis nattereri*	Uncommon. Known maternity and hibernation sites in VC55.
Noctule bat - *Nyctalus noctula*	Widespread, but may be declining.
Serotine - *Eptesicus serotinus*	Rare.
Leisler's bat - Nyctalus leisleri	Rare.
Barbastelle - *Barbastella barbastellus*	Rare British breeding species. Known hibernation sites in VC55, but no known maternity sites.
Nathusius Pipistrelle - *Pipistrellus nathusii*	Rare British breeding species. No known maternity or hibernation sites in VC55.
Greater horseshoe bat - *Rhinolophus ferrumequinum*	Rare British breeding species. Very rare vagrant to VC55.
Grey long-eared bat - *Plecotus austriacus*	Very rare British breeding species. Very rare vagrant to VC55.
Brandt's bat - *Myotis brandtii*	Status unknown.

The Bat Mitigation Plan should include an impact assessment – see the Scale of Impacts section on the government webpage 'Bats: surveys and mitigation for development projects': https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects

Bat mitigation should follow this hierarchy:

1. Aim to avoid negative effects, for example by redesigning the scheme.
2. If this is not possible, use mitigation measures to reduce the impacts.
3. Use compensation measures if there are still negative impacts for bats.

The Bat Mitigation Plan will summarise the actions that will reduce the impact of your development on bats. This includes timing of works, working methods and provision of permanent or temporary replacement bat roosts. This may require changes to the design of your development.

It is important that the Bat Mitigation Plan includes plans showing the locations of BOTH existing roosts and entrance/exit points AND proposed replacement roosts. Proposed mitigation must be agreed with the developer and must be shown on any site layout plan(s) and/or architects drawing(s).

If a maternity roost is present, this should be replaced like-for-like. Note that if this is for a species that requires flying space within the roost, such as brown long-eared, it may require a purpose-

built loft space. If the original roost cannot be kept or incorporated into the proposed building, it may require a stand-alone roosting structure / bat house.

Below is a non-exhaustive list of information we would expect to see in a Bat Mitigation Plan:

- Location and details of existing roosts;
- Details of retention and/or modification of existing roosts, if appropriate;
- Locations of temporary and permanent replacement roosts, as appropriate;
- If bat boxes/bricks are proposed, details of make/type and numbers;
- If a replacement roof void roost is proposed, details of width, height & length, and access points. Specification of traditional bitumen roofing felt (modern breathable membranes are NOT suitable as they may entangle and kill bats);
- Timing of works (month/year);
- Details of ecological supervision, destructive search / soft demolition of existing roost, as appropriate;
- Details of mitigation for any impacts of lighting, if appropriate;
- Details of monitoring, if appropriate.