



**PRELIMINARY ECOLOGICAL APPRAISAL
BAT RISK ASSESSMENT**

**KEEPER'S COTTAGE
BURBAGE
WILTSHIRE**

**BOM-FAAP-25-17
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PRELIMINARY ECOLOGICAL APPRAISAL
BAT RISK ASSESSMENT
KEEPER'S COTTAGE
TWELVE O'CLOCK DRIVE
DURLEY
BURBAGE
WILTSHIRE
SN8 3AZ
GRID REF
SU 23601 64232
REPORT FOR
FOWLER ARCHITECTURE AND PLANNING

Quality Assurance

Version	Prepared by	Date	Checked by	Date	Approved by	Date
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R2						

This report is intended to provide an accurate description of findings from survey work undertaken on the date shown in the report; however, it cannot fully account for any changes to site conditions following the completion of the survey work due to activities carried out on site or the dynamic nature of the natural environment. All work carried out by Bombus Ecology is subject to our Terms and Conditions.

The report has been produced in accordance with current best practice guidelines.

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1. Introduction

- 1.1: Due to a series of legal protections, it is illegal to cause disturbance or harm to many species across the whole of the UK, including nesting birds, bats of all UK species, great crested newts, badgers and many others. In order to determine the possible impact that development works or other land management proposals may cause, an ecological assessment is necessary to identify the species using the site, ways in which these species may be at risk, and potential avoidance, mitigation or compensation measures required during the planned works on site. The aim of this report is to provide the above listed information and to inform future works taking place on the proposed site, in terms of habitat protection and ecological enhancement (biodiversity net gain).

LEGISLATION

- 1.2: Within the UK, there is a suite of environmental legislative acts concerned with the protection, conservation and enhancement of the ecological and environmental factors present within our rural and built environments. The Wildlife and Countryside Act (1981) is the primary legislation for protection of wildlife within the UK and refers to the treatment and management of protected species listed as Schedule 1 (birds), 5 (mammals, reptiles, fish and invertebrates) and 8 (plants). Section 9 is arguably the most important part of the legislative act, as it states 'It is an offence to intentionally kill, injure, or take a scheduled species that is living wild at the time; to possess a scheduled species; to damage, destroy or obstruct access to the place of refuge used by the protected species.'
- 1.3: The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 is the English enactment of European legislation and provides similar but subtly different protection for species listed on Schedules 2 and 4 of those regulations. A recent change in this legislation means that the provisions of this act now complement those of the Wildlife and Countryside Act more. Species to which these provisions apply are the European Protected Species, examples of this include any of the Bat species within the UK and Great Crested Newts. Activities that might cause offences to be committed can be legitimised by obtaining a licence from the relevant statutory body.
- 1.4: All British bat species are listed on Schedule 5 of the Wildlife and Countryside Act 1981 and are afforded protection under Section 9 of this Act. In addition, all British bat species are listed on Schedule 2 of The Conservation of Habitats and Species Regulations 2019 and are protected under Regulation 39 of these Regulations. They make provision for the purpose of implementing European Union Directive on the Conservation of Natural Habitats and of Wild Fauna and

Flora 1992, under which bats are included on Annex IV. The Act and Regulations makes it an offence, inter alia, to:

- Intentionally kill, injure, take (handle) or capture a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection (this is taken to mean all bat roosts whether bats are present or not) – under the Habitats Regulations it is an offence to damage or destroy a breeding site or resting place of any bat; or
- Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection – under the Habitats Regulations it is an offence to deliberately disturb a bat (this applies anywhere, not just at its roost) in such a way as to be likely to affect its ability to survive, breed, reproduce, rear or nurture its young, or hibernate.

1.5: Badgers also have their own specific piece of legislation, the Protection of Badgers Act (1992), and there are other species that also have their own specific legislation.

1.6: Other important pieces of legislation that are important to protecting and conserving the environment as a whole within the UK and in some cases Europe include the Ramsar Convention on Wetlands (1971), Convention on the Conservation of Migratory Species of Wild Animals (1979), Convention on Biological Diversity (1992), The Countryside and Rights of Way Act (2000) and the Plant Health Act (1967, amended 2008). This is by no means an exhaustive list, but these are the most important legislations with regards to the ecological protections of the UK countryside.

BIOSECURITY

1.7: Biosecurity is important when entering any land, or other premises where there is a risk of spreading pests. Primarily, the goal of biosecurity is to prevent, control and/or manage risks to life and health. Food safety, zoonoses, the introduction of animal and plant diseases and pests, and the introduction and management of invasive alien species are all possible aspects relating to biosecurity, and it is of vital importance that measures are taken to prevent the spread of disease, loss of biodiversity and introduction of pests and pathogens.

1.8: Biosecurity measures are a series of precautionary steps designed to reduce the risk of transmission of harmful organisms. Good biosecurity practice refers to ways of working that minimise the risk of contamination and the spread of pests and invasive plants. The term pest in this case should be taken to include all invertebrate, bacterial or fungal organisms that are harmful.

- 1.9: When conducting all on site survey work, appropriate biosecurity measures are employed to prevent breaches of biosecurity and the potential spread of harmful pests and disease. A detailed brief on our biosecurity measures and qualifications is available on request.

2. Site Context

- 2.1: The site, known as Keeper's Cottage is located at Durley, Burbage, Wiltshire SN8 3AZ at Grid Reference SU 23601 64232 (Figure 1). This can be accessed via a Private Road (Twelve O'Clock Drive off Savernake Road. The plan for the site is to demolish the library and add an extension to existing cottage.
- 2.2: Bombus Ecology was commissioned to carry out a Bat Risk Assessment of the site, in order to identify the current ecological value of the site and any potential issues that will need to be mitigated or compensated for as a result of the planned works, as well as providing the basis for a suite of ecological habitat enhancement which is a key aim of the project.



FIGURE 1. Surveyed Area indicated by the yellow line above (2023 Aerial Photo)

3. Methodology

- 3.1: During the course of our Preliminary Ecological Assessment, we use two main methods of survey: field based, and computer based. When conducting these surveys, we ensure that we adhere to all guidelines set out by the appropriate expert bodies, including Natural England, the Bat Conservation Trust, The British Trust for Ornithology and the Amphibian and Reptile Conservation Trust to name a few. In accordance with best practice, levels of wildlife disturbance caused when conducting these surveys are kept to an absolute minimum and appropriate biosecurity measures are assessed and put in place.

FIELD SURVEY

- 3.2: The field-based survey consists of an initial walkover survey conducted over the proposed site to identify the presence of any protected species or habitats, as well as to identify any invasive species that may be present and any possible detrimental impacts on site that the proposed works may cause. Any ponds and watercourses within the immediate vicinity of the site would also be assessed for their value to protected species, and if deemed necessary a habitat suitability index would be carried out. Through this initial field-based survey, the need for further species-specific surveys would be confirmed and it would also be determined if any alternate biosecurity methods would be necessary for future site visits.

COMPUTER BASED SURVEY

- 3.3: The computer-based survey is carried out using data sets from open-source resources such as OpenStreetMap, the Ordnance Survey OpenData, the governmental open data download portal and the Multi-Agency Geographical Information for the Countryside web portal (MAGIC) which collates datasets from a wide variety of governmental and non-governmental organisations including DEFRA, Historic England, the RSPB, the Forestry Commission and the Environment Agency to name a few. Designated areas within the near vicinity of the site are important to know in case of any impact that may be caused through the planned future use of the site and any proposed works to take place. From this information, a landscape scale map is produced using geographical information services (GIS) software to illustrate and investigate the distances and geographical barriers between the site and the designated areas, in order to determine any potential impacts.

PROTECTED SPECIES SURVEY

- 3.4: Based on the habitats present, the site was assessed with particular regard to determining the presence or otherwise of badgers (*Meles meles*), bats, great crested newts (GCN) (*Triturus cristatus*), nesting birds, and reptiles. An overview of the survey methods used is outlined below.

3.5: Badgers:

An assessment of the site and surrounding habitats (where access was available), with a focus on any areas of dense vegetation, was carried out in order to identify any evidence of badgers, including:

- the presence of any setts
- well-used runs/tracks
- supplementary evidence, such as hairs or prints
- badgers themselves

Any badger holes found during the survey were classified in accordance with standardised survey guidelines (Harris *et al.*, 1989), being grouped into setts, where applicable, and categorised in terms of the type of sett (in descending order of significance: main, annexe, subsidiary, outlier) and the level of use of each hole (well-used, partially-used, disused).

3.6: Bats:

An assessment of the target building was carried out to identify the presence of any Potential Roosting Features (PRFs) for bats, and/or evidence of roosting bats, following the guidelines provided by the Bat Conservation Trust (BCT) (Collins, 2023). An external inspection of the building was carried out, focussing on features that may provide roosting opportunities or access points to roosting features internally, such as the roofing materials, soffits, fascias, barge boards and any lead flashing if present. The target building is categorised in accordance with BCT guidelines, detailed in Table 1 below.

A preliminary ground level roost assessment of any trees if present within an impact zone or directly adjacent to the buildings was also carried out to identify the presence of any PRFs for bats, such as split bark, woodpecker holes and other cavities for bats and/or evidence of roosting bats. All trees assessed were categorised in terms of their value in accordance with the current Bat Conservation Trust (BCT) survey guidelines 4th Edition (Collins, 2023), shown in Table 1.

Features that are symptomatic of bat use include bat droppings in around or below an entrance hole, staining around an entrance hole, small scratches around an entrance hole, audible squeaking at dusk or in warm weather, smoothening of surfaces around the cavity of an entrance hole and the distinctive smell of bats. The bat risk assessment was completed using ladders, binoculars and a powerful torch. An endoscope was also available to check any small gaps/cracks for evidence of bats.

Table 1. Guidelines for assessing bat roosting potential of structures and trees

Suitability	Habitat description	Further action required?
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further bat risk assessment effort or bat activity surveys are required.
Low	A tree of sufficient size and age to contain PRFs, but with none seen from the ground or features seen with only very limited roosting potential.	Trees: No further bat risk assessment effort or bat activity surveys are required.
Moderate	A structure or tree with one or more potential roost sites 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.	Two bat activity surveys are required to determine whether the structure or tree is being utilised by roosting bats; this should be comprised of one dusk and one dawn survey. One survey must occur between May and August.
High	A structure or tree 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 and surrounding habitat.	Three bat activity surveys are required to determine whether the structure or tree is being utilised by roosting bats; this should be comprised of one dusk and one dawn survey, with an additional survey (either dusk or dawn). Two surveys must occur between May and August.

3.7: Great Crested Newts:

An assessment of the habitats present on the site was carried out in order to determine their suitability to support GCN and any natural or artificial refugia (such as logs, stones, discarded building materials etc.) present were also lifted to check for the presence of GCN.

3.8: Nesting Birds:

The habitats on site were assessed to determine their suitability for nesting, with a check carried out for the presence of any active nests or any evidence of nesting behaviour.

3.9: Reptiles:

The assessment for reptiles followed a similar methodology to that for GCN, with an assessment of the habitats present carried out to determine their suitability to support reptiles, and with any refugia lifted to check for the presence of reptiles or evidence of reptiles, such as sloughs (shed skins).

3.10: Other Wildlife:

In accordance with good practice, the site was checked for the presence of any other protected/notable species, with a regard to any other species highlighted in the desktop study.

3.11: Invasive Species: The site was also surveyed for the presence of any invasive, non-native flora or fauna.

4. Results

- 4.1: The survey was carried out on the 28th of October 2025 by Director of Ecology David Pollard BSc (Hons) MRSB and was assisted in this commission by Principal Ecologist Sarah Woods BSc (Hons) MSc AMRSB MRES and Ecologist Holly Pollard.
- 4.2: The weather conditions at the time of the field survey were showery with a slight breeze and a temperature of 14° C, and as such were suitable for this initial walkover survey. Whilst it is recognised the survey was carried out outside the vegetative growing season, the surveyor is confident of identifying most of the flora in a vegetative state using **Poland et al 2020**. There were no constraints with regards to access on the site. All survey and biosecurity guidelines were adhered to. The results of the field and computer-based study are as listed below.

ECOLOGICAL FEATURES ON SITE

- 4.3: The site consists of a traditional cottage with outbuildings within a managed garden.
- 4.4: The Target Building is a small brick-built building with a tile roof that is currently a library. On the outside of the building the northern edge has ornamental vegetation on the walls. The brickwork is relatively well appointed and as such has a lack of cracks and crevices. The odd crack/crevice noted was investigated using a powerful torch and endoscope to no avail as they were cobwebbed.
- 4.5: Internally there is a high ceiling leading to a roof void – because this is detached from the main cottage there is no central heating, as such the building is very damp and cold. The roof void was boarded but there were signs of water and plant ingress. There were no signs of bats but droppings indicative of two species of rodents including a larger dropping indicative of rat or squirrel.
- 4.6: The Target Building is situated on hard standing close to the main house within a manicured and managed garden.
- 4.7: There are no roof voids within the main cottage as the roof space has been utilised with rooms and windows. The proposed development will not impinge on the existing roof void.

ECOLOGICAL FEATURES OFF SITE

- 4.8: The site is located within a wider parkland and wooded landscape on the edges of the hamlet of Durley on outskirts of Savernake Forest. There are a number of small lakes and ponds within 500m.

PROTECTED SPECIES ON SITE

4.9: Badgers

Badgers will utilise the nearby farmland and woodlands for foraging. There were no signs in the vicinity of site, thus, badgers are not considered to be of material consideration in this development of this portion of land.

4.10: Bats

The Target Building is currently deemed to be of negligible potential for foraging bats due to lack of signs of bats internally/externally, damp and water/plant ingress.

The trees on the periphery of the surveyed area are mature enough to offer PRFs for bats are not going to be impacted upon by this localised development. The associated landscapes have the greater potential to be a bat flight lines/foraging routes given the optimal foraging habitat close by and thus should be maintained and protected from light spill and noise disturbance.

4.11: Birds

The buildings and surrounding vegetation, hedgerows and trees will offer numerous nesting opportunities for common passerine species particularly small passerine species.

4.12: Great Crested Newts and Other Amphibians

There are a number of ponds/small lakes within 500m. On site there are two small lakes/ponds and two ornamental hard landscaped ponds. The two more natural ponds had both wildfowl and fish which limit their suitability for GCN. From extensive work carried out by the author on other projects locally it was found that GCN were not noted locally and they are not good colonisers. Thus, GCN will not be of material consideration to this development.

4.13: Reptiles

The majority of the site is low potential for common reptiles due to predominance of hard standing around the buildings, with tree cover and dense vegetation with a lack of basking spots. Reptiles would forage and commute along nearby woodland/hedgerows.

4.14: Invasive Species on Site

No invasive species, as listed on Schedule 9 of the Wildlife and Countryside Act, were recorded on-site at the time of the survey.

Computer-Based Study of Site

- 4.15: The computer-based study was carried out on a landscape wide scale, using open-source GIS software to research and analyse any potential impacts to designated areas that may occur as a result of the planned works. The closest internationally designated site is the River Avon Special Area of Conservation (SAC) which lies 7.27 km to the west of the site. The nearest nationally designated site is the Savernake Forest Site of Special Scientific Interest (SSSI) and lies at 650m west of site.
- 4.16: There are eighty-seven areas of Ancient Woodland within 5 km of site. The closest to site is Hen's Wood/Briary Wood which lies 849m west of site.
- 4.17: Due to the contained nature of the site's redevelopment proposals, it is not felt there will be any impact on locally protected sites.

Table 2. Statutory Designated Sites within 5km of site

Designated area type	Site Name	Reference code	Reason for designation	Size (ha)	Distance from site (km)
Sites of Special Scientific Interest (SSSI)	Savernake Forest	1000884	Biological	915.6	0.65

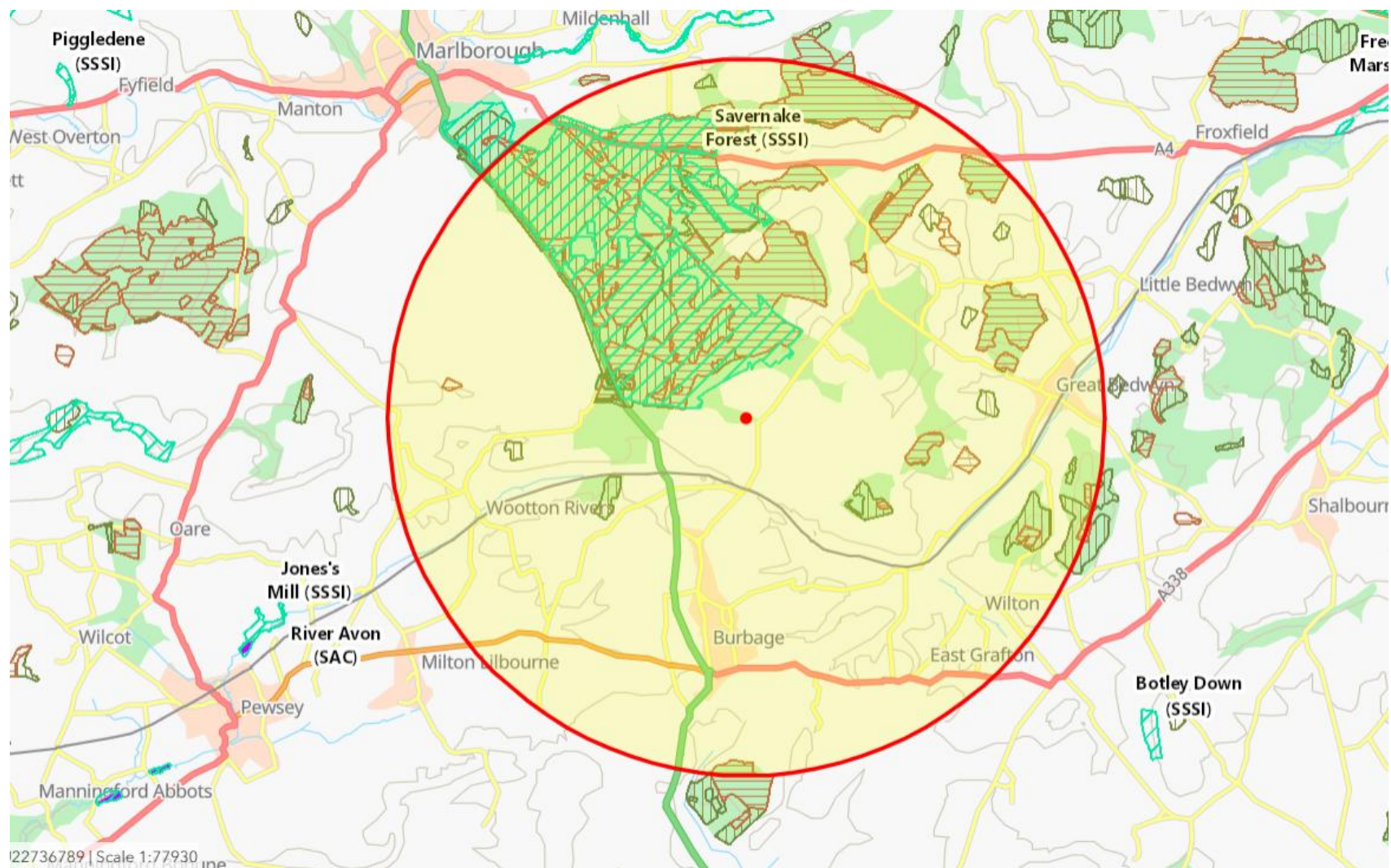


Figure 3 Protected Sites within 5km

5. Conclusion and Recommendations

- 5.1: The target building is deemed to be of negligible potential for bats at this current time due to lack of PRF's, lack of signs of bats, damp, water ingress plus excessive cobwebbing, and as such no further surveys will be required for this site.
- 5.2: Based on the findings from the surveys carried out as part of this Preliminary Ecological Appraisal, Bombus Ecology Ltd would recommend the following:

MITIGATION

- 5.3: Any vegetation should not be removed to allow access during nominal bird breeding season (March to August). If this is not achievable, then the ecologist will provide advice and potentially a watching brief.
- 5.4: In the very unlikely event, a bat is found during the redevelopment of the house, work should cease on that section and the Ecologist at Bombus Ecology informed will provide a watching brief and method statement.
- 5.5: The use of bitumen felt or second-generation membranes within any roof voids if one is to be created.
- 5.6: If lighting is required it is recommended that a wildlife-friendly, low-level lighting scheme should be adopted during and post-development to minimise disturbance to any nocturnal wildlife using the peripheries of site, such as bats foraging along the site boundaries. Further details can be obtained from the ecologist.

ENHANCEMENT

- 5.7: Emerging Government policy supports the pursuit of measurable net gains for biodiversity. The Environment Bill includes a requirement of 10% for biodiversity net gain on all development sites.
- 5.8: Looking at the proposal there isn't in my opinion the requirement to carry out BNG calculations because it is an intrinsic redevelopment within the original footprint of the existing buildings and hard standing and there is no impact on any natural/semi-natural habitats nearby i.e. woodland, grassland etc. There is a recommendation for some biodiversity gain implementing some of the measures outlined below.
- 5.9: The following measures are recommended to get biodiversity enhancements:
- Installation of Bat boxes

- Landscape planting of trees that provide nectar, fruit or nuts i.e. rowan *Sorbus acuparia*, hornbeams *Sorbus sp.* blackthorn *Prunus spinosa*, hazel and crab apple *Malus sylvestris*.

FURTHER SURVEYS

5.10: No further survey work is required for this site.

6. Site Images



Image 1 Target Building



Image 2 Roof Structure Image 1 – Plant ingress



Image 3 Roof Void Image 1



Image 4 Damp and water ingress



Image 5 Target Building eastern aspect



Image 6 Main cottage with rooms in roof voids



Image 7 Hard standing and ornamental plants main cottage and target building

7 Bibliography and References

1. Britain, G. The Protection of Badgers Act. *London Station. Off.* (1992).
2. Wildlife and Countryside Act, W. and C. Public General Acts—Elizabeth II. (1981).
3. Bromley, M. P. *Countryside management*. (Taylor & Francis, 2013).
4. Hobbs, R. J. *Invasive species in a changing world*. (Island Press, 2000).
5. Beebee, T. J. C. & Griffiths, R. A. Amphibians and Reptiles: A Natural History of the British Herpetofauna, *The New Naturalist*. (2000).
6. Corlett, R. T. Restoration, reintroduction, and rewilding in a changing world. *Trends Ecol. Evol.* **31**, 453–462 (2016).
7. Hayhow, D. B. *et al.* State of nature 2019. (2019).
8. Committee], J. [Joint N. C. Handbook for Phase 1 habitat survey—a technique for environmental audit—revised reprint. (2003).
9. McLeod, C. R. *et al.* The Habitats Directive: selection of special areas of conservation in the UK. *Jt. Nat. Conserv. Committee, Peterbrgh.* (2005).
10. Gilbert, G., Gibbons, D. W. & Evans, J. *Bird Monitoring Methods: a manual of techniques for key UK species*. (Published by the RSPB in association with British Trust for Ornithology, 1998).
11. Kirby, P. *Habitat management for invertebrates: a practical handbook*. (RSPB, 1992).
12. Batten, L. A., Bibby, C. J., Clement, P., Elliott, G. D. & Porter, R. F. *Red data birds in Britain*. (A&C Black, 2013).
13. Edgar, P. & Bird, D. R. Action plan for the conservation of the crested newt *Triturus cristatus* species complex in Europe. *Counc. Eur. Union, Strassbourg, Ger.* 1–33 (2006).
14. Nature, E. Great crested newt mitigation guidelines. *English Nature, Peterbrgh.* 55 (2001).
15. (London), B. C. T. & Hundt, L. *Bat surveys: good practice guidelines*. 4th Edition (Bat Conservation Trust, 2023).
16. Mitchell-Jones, T. *Bat mitigation guidelines*. (External Relations Team, English Nature, 2004).
17. Subcommittee, T. P. of B. R. G., Sheffield, S. R., Shaw, J. H., Heidt, G. A. & McClenaghan, L. R. Guidelines for the protection of bat roosts. *J. Mammal.* 707–710 (1992).
18. Poland, J. & et al (2020). Vegetative key to the British Flora. 2nd Edition (Botanical Society of the British Isles,).
19. Oldham, R. S., Keeble, J., Swan, M. J. S. & Jeffcote, M. Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). *Herpetol. J.* **10**, 143–156 (2000).
20. HMSO. The Conservation of Habitats and Species Regulations. (2019 UK Leaving).