



**PRELIMINARY ECOLOGICAL APPRAISAL
BAT RISK ASSESSMENT**

**WELFUL LAKE HOUSE
SHERBORNE
GLOUCESTERSHIRE**

BOM-RJD-23-13

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PRELIMINARY ECOLOGICAL APPRAISAL**BAT RISK ASSESSMENT****WELFUL LAKE HOUSE****LODGE PARK****SHERBORNE****COTSWOLD DISTRICT****GLOUCESTERSHIRE****GL54 3PP****GRID REF****SP 15761 13027****REPORT FOR****MR ROB JONES DAVIES****Quality Assurance**

Version	Prepared by	Date	Checked by	Date	Approved by	Date
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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.

Contents

1. Introduction	4
2. Site Context	7
3. Methodology	8
4. Results	12
5. Conclusion and Recommendations	16
6. Site Images	18
7. Bibliography and References	22

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 Welful Lake House, is located at Sherborne, Cotswold District, Gloucestershire GL54 3PP at Grid Reference SP 15761 13027 (Figure 1). This can be accessed via a private road of A40. The plan for this site is to redevelop two large barns one to create a swimming pool, the other into a an entertaining barn.
- 2.2: Bombus Ecology was commissioned to carry out a Preliminary Ecological Appraisal/Bat Risk Assessment of Welful Lake House, 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 red line above.

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 buildings were 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, 2016). 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. An internal inspection was also carried out for any evidence of bats. The target building is categorised in accordance with BCT guidelines, detailed in Table 1 below.

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.

A preliminary ground level roost assessment of any trees if present within an impact zone or directly adjacent to the barns 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 (Collins, 2016), shown in Table 1.

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 23rd of November 2023 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 initially were sunny and cold with a temperature of 11° 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 two large stone-built barns.

4.4: Both barns are of a similar construction – Large stone-built barn with wooden rafters and stone tiled roofs. Both have large wooden doors and numerous windows, and both are very well appointed thus a paucity of cracks and a lack of PRF's. Internally the left hand barn had a small number of desiccating bat droppings and lepidopteran wings (also showing signs of age) indicating a feeding 'roost' for brown long-eared bats *Plecotus auratus*. Although the age of droppings and butterfly wings indicate this hasn't been used for some considerable time – at least 2-3 years. There were no other signs within either barn.

4.5: Between the barns there are two circular ornamental ponds interlinked with springs – The closest pond had a population of fish which would limit it's use for great crested newts. Another limiting factor would be isolation from other ponds and the surrounding landscapes i.e. arable fields and intensively grazed fields.

4.6: The barns are each on a hardstanding within formal gardens.

ECOLOGICAL FEATURES OFF SITE

4.7: The site is set in a wider agricultural/parkland type landscape as indicated by small woodlands and standard trees within fields, close to the village of Sherborne close to the A40 trunk road. Other than the two ponds on site there are no obvious ponds within 500m.

PROTECTED SPECIES ON SITE

4.8: Badgers

Badgers are likely to use the farmland adjacent to the site for foraging. There are no obvious setts locally to site. Thus, badgers are not considered to be of material consideration in this development of this portion of land.

4.9: Bats

Both of the target buildings had a paucity of cracks and potential PRF's and too much ambient light. One used to be a feeding roost but that was over 2 years ago.

The trees on the borders are mature enough to offer PRFs for bats but are not going to be impacted upon by this small development. The hedgerows bordering the site and associated landscapes have the 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.

4.10: Birds

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

4.11: Great Crested Newts and Other Amphibians

Common amphibians including GCN would not utilise the farmland on the peripheries of site for foraging purposes. They will not forage on the grazed field or arable fields due to the threat of visible predation. The two ponds on site are sub optimal for GCN due to fish and isolation, there are no other ponds within 500m.

GCN will not be of material consideration to this development.

4.12: Reptiles

The majority of the site is sub-optimal for common reptiles due to hard standing. Reptiles could utilise the hedgerows for commuting and foraging.

4.13: 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. However, grey squirrel *Sciurus carolinensis*. and muntjac *Muntjacus reevesii* were noted within the woodland just off-site.

Computer-Based Study of Site

4.14: 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 Cotswolds Beechwoods Special Area of Conservation (SAC), at 23.2 km to the west of the site. The nearest nationally designated site is the Westwell Gorse Site of Special Scientific Interest (SSSI) and lies 6.2 km east of the site.

- 4.15: There are 11 areas of Ancient woodland/Ancient Replanted Woodland within 5km of site. The nearest area is unnamed at 1.9 km northeast of site
- 4.16: Due to the intrinsic compact nature of the proposed development, it is not thought there will be any impact on any local 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)
Special Areas of Conservation (SAC)	Cotswolds Beechwoods	UK0013658	Biological	590.2	23.2
Sites of Special Scientific Interest (SSSI)	Westwell Gorse	1000781	Biological	2.54	6.2

Biological Records

- 4.17: Biological records were requested from Wiltshire and Swindon Biological Records Centre, at the time of writing of this report, these have not yet been received. Upon receipt the records will be analysed and added to the report and the report reissued.

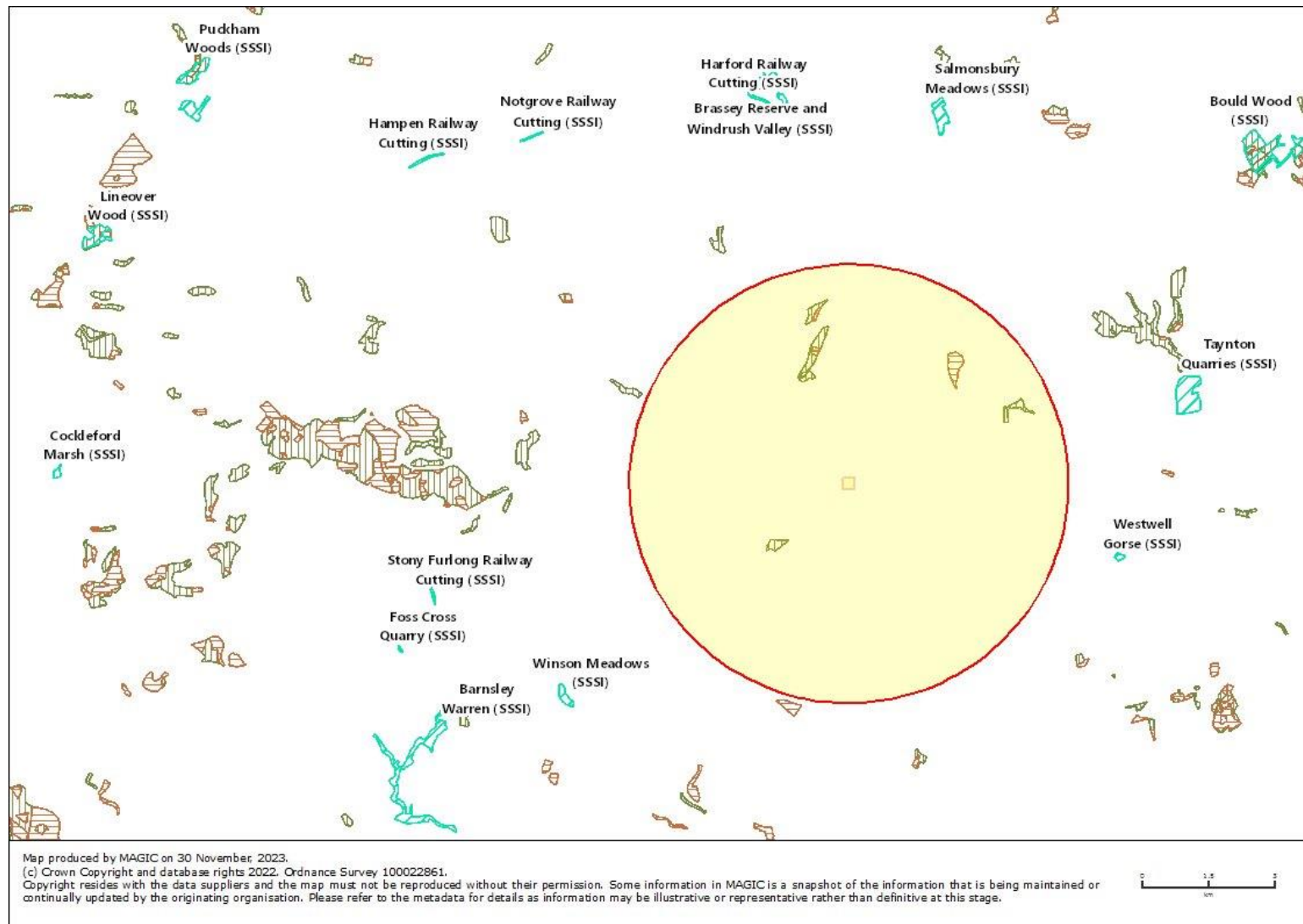


Figure 3 Protected Sites and Ancient Woodland within 5km

5. Conclusion and Recommendations

- 5.1: The target buildings are deemed to be of negligible potential for roosting bats at this current time due to their lack of PRF's and in some cases the amount of ambient light, and as such no further surveys will be required for the Welful Lake House Site.
- 5.2: Based on the findings from both of the surveys carried out as part of this Preliminary Ecological Appraisal, Bombus Ecology Ltd would recommend the following:

MITIGATION

- 5.3: Ideally, any demolition/reconstruction activities should take place outside the 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: Any vegetation should not be removed to allow access during bird breeding season. If this is not achievable, then the ecologist will provide advice and potentially a watching brief.
- 5.5: There is a strong recommendation for the use of a bitumen type felt or second generation breathable membranes.
- 5.6: In the unlikely event, a bat is found during the redevelopment, work should cease on that section and the Ecologist at Bombus Ecology informed will provide a watching brief and method statement.
- 5.7: 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

- 5.8: 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.
- 5.9: Looking at the proposal there is the potential for measurable net gains in excess of 10%.
- 5.10: The following measures are recommended to achieve the required biodiversity gain:
- Implementation of both swift bricks and bat tiles into the final design.

- Replanting of a range of ruderal type plants and scrub that will attract pollinators along the periphery i.e. nectar sources.
- Landscape planting of trees that provide nectar, fruit or nuts i.e. rowan *Sorbus acuperia*, hornbeams *Sorbus sp.* blackthorn *Prunus spinosa*, hazel and crab apple *Malus sylvestris*.

FURTHER SURVEYS

5.11: No further survey work is required for the Welful Lake House site.

6. Site Images



Image 1 Left-hand barn



Image 2 Internal structure of left-hand barn



Image 3 Roof structure of left-hand barn



Image 4 Across the pond to the right-hand barn



Image 5 Internal structure of right-hand barn – note slightly less ambient light



Image 6 Internal structure of lean to building attached to right-hand barn



Image 7 Westward view of right-hand barn

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