



**DAYTIME BAT & NESTING BIRD
SURVEY REPORT**

WORTH HOUSE, TIVERTON

for

RENEWABLES FIRST
ON BEHALF OF
MR & MRS BABBEDGE

February 2023

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CONTRACT SHEET

Renewables First

Worth House, Tiverton

Daytime Bat & Nesting Bird Survey Report

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1. SUMMARY OF RESULTS & RECOMMENDATIONS

1.1 Results

1. The proposal includes the installation of an overshot waterwheel system, just downstream of a small weir on site. This will involve cutting into part of the bank. This survey was commissioned to confirm whether or not the proposal would impact on bat roosting and/or bird nesting sites. The survey site is centred on Ordnance Survey National Grid Reference SS 946 146.
2. A daytime bat and nesting bird survey was undertaken by an experienced and appropriately licensed ecologist from Lee Ecology on 21 February 2023. Weather conditions at the time of survey were dry, calm and overcast with an average ambient temperature of 8°C.
3. The site comprises a section of stream and adjacent bank set within the curtilage of Worth House. The site is immediately surrounded by woodland and garden with hedge-lined agricultural fields, the River Exe and dwellings, with associated gardens, in the wider landscape.
4. The bank and walls supporting the footbridge were examined. No evidence of bats was noted internally or externally. No negative impact on roosting bats is anticipated.
5. No impact on bat foraging/commuting behaviour, on the local scale, is anticipated as a result of the proposed development. No formal lighting scheme is to be implemented.
6. No active bird nesting was confirmed on the day of survey. The site is not considered suitable for barn owls.

7. No evidence of other protected species (e.g. otter) was noted in the area. Based on the scale of the proposal and the findings of the initial assessment, a full protected species survey is not considered necessary, when applying proportionality. An assessment, regarding fish and aquatic habitats, has already been made by Renewables First. The details of this are provided in their design statement.

1.2 Recommendations

The following recommendations are made to ensure compliance with wildlife legislation (e.g. the Wildlife and Countryside Act 1981 as amended, the Conservation of Habitats & Species Regulations 2010), biodiversity legislation (e.g. the Natural Environment and Rural Communities Act 2006), government guidance and best practice (e.g. UK Biodiversity Action Plan).

1. Based on the survey findings to date it is considered reasonably *unlikely* that the proposed works will impact upon bats or their roosts at the site, and on this basis recourse to further survey work and/or an EPS licence is considered unnecessary at this juncture. Due to the highly mobile nature of bats a precautionary approach is nevertheless recommended to ensure compliance with the strict UK and European legislation affecting bats and their roosts (see recommendations, below).
2. All works should be undertaken sensitively so as to minimise the impacts of noise, dust and vibration. Works should cease at least one hour before sunset (between April to October) to reduce any disturbance, through noise and vibration, to nocturnal wildlife.
3. In the highly unlikely event that bats are found during these works, all works will need to halt until consultation has been made with an ecologist and Natural England. The bat should not be handled and should be left to disperse of its

own volition (the material under which it was found should be replaced gently). Guidance is provided in the Appendix, for contractors, regarding tell-tale signs of bat occupation.

4. No development work should take place in proximity to an active bird's nest (only if applicable at time of works). For reference, the bird nesting season is recognised as generally being between March-August inclusive. The site should be checked by a suitably qualified ecologist immediately prior to works commencing only if there is any doubt as to the status of nesting birds on site. The ecologist will be able to identify any nesting birds and advise of appropriate safe working distances. Nests are deemed inactive once the young have fully fledged and there is no sign of adults bringing nesting material/food to the nest or sitting on eggs.
5. In line with current policy to promote biodiversity enhancement, a single general purpose bird box should be erected on site. The nest box should not be sited in an area which is exposed to full sunshine, in order to prevent chicks from overheating, or which is within easy reach of predators (e.g. cats).
6. The results of this survey (on a standalone basis) are deemed to be valid for 12 months from date of issue. If development works are to be carried out after this time has elapsed an update check will be required to ascertain the site's current status (i.e. change in habitats, condition of buildings, species present etc.). Please be aware that, because the natural environment is dynamic, ecological reports generally have a limited period of validity. Many statutory authorities now regard one year as the maximum time that should elapse before a report will need to be updated (this time period may vary depending on the Local Planning Authority in question).

2. INTRODUCTION

2.1 Scheme Background

The proposal includes the installation of an overshot waterwheel as part of a small hydroelectric power scheme project. This bat and nesting bird survey has been commissioned to provide supporting information on the possible presence of protected species at the site and direct appropriate further works including additional surveys, mitigation, compensation and licensing if required.

2.2 Survey Objectives & Limitations

The objectives of the survey were:

1. to carry out a bat and nesting bird survey of the site in order to determine the possible presence of these species in relation to planning requirements;
2. to provide a concise written report of the results, making any appropriate recommendations to ensure compliance with wildlife law and recognised best practice.

The daytime survey was undertaken in the month of February; it is recognised that field signs of bats can be identified by an experienced ecologist at any time of year (see Mitchell-Jones, 2004).

Bat activity surveys are often required to supplement daytime survey findings and are normally undertaken in the summer months (May – September inclusive). These surveys are beyond the scope of this current commission and are considered unnecessary at this juncture.

3. METHODS

3.1 Daytime Bat Survey

One licensed ecologist (bat licence registration number 2015-13745-CLS-CLS) undertook this survey on 21 February 2023 following the methods recommended by the Bat Conservation Trust and Natural England (BCT, 2016; Mitchell-Jones, 2004).

Equipment included a head torch, ladder, endoscope, camera and binoculars.

A diurnal inspection was made for any bat field signs or evidence of bat roosting. Signs of bat activity may include droppings, feeding remains, absence of cobwebs, vocalisations, staining, scratch marks, odour and live/dead bats.

3.2 Nesting Bird Survey

Signs which indicate use by nesting birds may include concentrated droppings, feathers, nesting material, increased bird activity, eggs/egg shells and live/dead chicks.

4. RESULTS

4.1 Bat & Bird Survey

4.1.1 General Site Description

The site comprises a section of stream and adjacent bank set within the curtilage of Worth House. The site is immediately surrounded by woodland and garden with hedge-lined agricultural fields, the River Exe and dwellings, with associated gardens, in the wider landscape.

4.1.2 Worth House

The site comprises a concrete weir with associated weir pool and small stream. A timber footbridge is supported by exposed stone walls. The stream was relatively fast-flowing on the day of survey with an average depth of approximately 30cm. The bottom of the stream is a mixture of stone and silt. A small section of bank will be removed to facilitate the installation of the waterwheel. The bank and walls supporting the footbridge were examined with a particular focus on any small crevices.

No evidence of roosting bats or nesting bird activity was recorded on the day.



Plate 1: View downstream of the weir (facing west)



Plate 2: Section of bank (on left) subject to proposed works (facing east)



Plate 3: View from weir (facing south-east)



Plate 4: View under the footbridge (facing west)



Plate 5: Surroundings (facing west)



Plate 6: Surroundings (facing south)

4.1.3 Location Plan

Site



NORTH

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Please note: this plan is intended only to indicate the approximate location of features and should therefore, not be treated as an accurate scale plan.
Images sourced from Google Earth.

5. DISCUSSION OF IMPACTS

No evidence of bat roosting was found during the assessment. When applying proportionality, the predicted impact on roosting bats is considered to be low based on the location of the proposal (within a low bank). No negative impact on bat foraging and/or commuting behaviour is predicted as no mature vegetation removal (i.e., hedgerows, large trees) is proposed as part of the scheme. No lighting scheme is proposed.

Please be aware that nesting birds *may* occur around the wider site during the summer months and care will be required to ensure compliance with the Wildlife and Countryside Act 1981 (as amended).

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7. QUALIFICATIONS & EXPERIENCE

Tamsin Lee BSc (Hons) MSc MCIEEM

Tamsin holds a BSc (Hons) in Zoology from the University of Bristol and an MSc in Environmental Conservation Management and has experience of a wide variety of ecology surveys. Her fieldwork skills include protected species surveys (reptiles, great crested newts, bats, dormice etc.), reptile translocations, butterfly surveys, phase 1 habitat surveys as well as various studies of terrestrial and marine life outside of the UK. Tamsin is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and holds survey licenses for bats, barn owls, and dormice within England. She has been registered with the Bat Conservation Trust (BCT) as a bat carer and is a member of various wildlife groups.

8. APPENDIX

8.1 Ecology & Legal Protection

8.1.1 Bats

There are seventeen species of bats recorded as resident in the UK (one of these, Alcathe's bat (*Myotis alcathoe*) has only been discovered as resident in 2010); these species are split into two families, the Rhinolophidae or "horseshoe bats" and the Vespertilionidae or "vesper bats". The greater mouse-eared bat (*Myotis myotis*) was previously thought to be extinct as a UK mammal species until a single individual was discovered in 2002 at a known hibernation site in Sussex, this species is currently regarded by the Bat Conservation Trust as a vagrant/occasional winter visitor. All British bats are insectivorous, feeding on a wide range of invertebrates including gnats, beetles, spiders and moths. Bats have declined in range and numbers in the UK, due primarily to loss of roosts and suitable habitats (JNCC, 2004) as a result of agricultural intensification and development. All British bats use high frequency sound (range 20 - 130 kHz approx.) as a form of echolocation. This allows bats to orientate themselves within their environment, detect and catch prey and communicate with other bats. Healthy bats are solely nocturnal with 'peaks' of activity particularly noted around dusk and dawn during the late spring and summer months.

Bats will utilise a wide variety of structures for the purposes of roosting, including mature trees, caves, mines, buildings (both modern and ancient), bridges and tunnels. They are also commonly known to use purpose-built bat boxes and even empty bird nest boxes. Different types of roost are used by bats at different times of year; the most significant roosts sites are typically maternity and hibernation sites. Maternity roosts, where large numbers of female bats congregate to give birth and rear their young, are typically associated with warm, sheltered conditions. Hibernation sites are characterised by stable temperatures and high humidity. The use of roosts is rather unpredictable (although some species appear to be more 'loyal' to roosts than others), particularly amongst tree-roosting species, but female bats are typically loyal to maternity roosts.

The Conservation of Habitats and Species Regulations 2017 transpose the stipulations of Council Directive 92/43/EEC (“The Habitats Directive”) into UK Law. European Protected Species (EPS), which include bats, are listed in Annex IV of the Habitats Directive, and are thus afforded strict protection. Some bat species are regarded as being of higher conservation concern in a European context, and these are listed under Annex II of the Habitats Directive. The habitats of species listed on Annex II may be candidates for the designation of Special Areas of Conservation (SACs). Annex II bat species include the barbastelle, Bechstein’s and the two horseshoe bats. It should be noted that there is no longer a defence of harmful actions being “the incidental result of an otherwise lawful operation” for EPS. Specifically, the following actions are prohibited under this legislation:

- deliberate capture, injury or killing;
- deliberate disturbance likely significantly to affect population survival, breeding, rearing young, local distribution or abundance;
- damage or destruction of a breeding site or resting place;
- possessing, controlling transporting, selling or exchanging, or offering for sale or exchange, any bat or any part of a bat or anything derived from one.

The Wildlife and Countryside Act 1981 (WCA) provides protection to all British bat species. The WCA has been amended several times but was most recently strengthened by the Countryside and Rights of Way (CRoW) Act 2000, the Natural Environment and Rural Communities (NERC) Act 2006 and by the Conservation of Habitats and Species Regulations 2017 (above). The WCA specifically prohibits intentional or reckless damage of roosts. Sites known to be used by roosting bats are regarded as roosts regardless of whether they contain bats at the time of survey. This is based on the fact that bats will use several different roost sites throughout the year.

The NERC Act consolidates the requirements of the CRoW Act in placing duties upon government agencies, including local authorities, to ensure the conservation of Biodiversity.

8.1.2 Nesting Birds

All wild birds are protected under part 1 of the Wildlife and Countryside Act, 1981.

Therefore, in the UK it is an offence to:

- Take, damage or destroy the nest of any wild bird whilst it is being built or in use.
- Kill, injure or take any wild bird
- Take or destroy the eggs of any wild bird

To avoid committing an offence no works should be carried out on a structure/feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged.

Certain species, which are listed in Schedule 1 of the Wildlife and Countryside Act, receive special protection. In these cases any form of intentional or reckless disturbance when they are nesting or rearing dependant young, constitutes an offence.

8.2 How to Identify Field Signs of Bats

The following notes are provided as a guide for site workers and operatives if they come across field signs that give rise to suspicion of bats in particular (it is assumed that all site operatives can identify bird nests and bird droppings).

Signs of bat activity may include (English Nature 2002; Mitchell-Jones 2004; JNCC 2004) the following:

- Droppings – Fresh droppings are soft and black, becoming lighter in colour as they age. Bat droppings typically contain fragments of insect exoskeleton and crumble (unlike those of small rodents, which typically harden with time). Bat droppings differ significantly from those of birds in that they have a distinctive 'bullet' shape and have none of the associated white uric acid powder associated with bird faeces. Bat droppings will stick to surfaces including walls, windows and window ledges. They may also become caught in cobwebs below a roost site or feeding perch.
- Feeding remains - these include the discarded wings of flying invertebrates, which may accumulate under a well-used feeding perch. Some species, such as the brown long-eared bat, favour moths of the noctuid family. Hence the accumulated wings of these moths assist in suggesting the presence of this bat.
- Oil staining - the fur of bats may leave an oily residue on surfaces close to occupied roost sites and access/egress points.
- Diurnal vocalisations - these are most pronounced at larger roost sites during periods of hot weather.
- Absence of cobwebs - a well used bat roost and its access points are typically clear of cobwebs.
- Scratchings - scratch marks produced by the claws of many bats may be apparent close to the access point for a well-used roost.
- Dead bats.
- Tracks in dust.
- Odour – most bats have a distinctive odour and certain species, such as the

noctule and soprano pipistrelle, are noted for their pungent roosts resulting from their urine scent marking activity and oily fur.

8.3 General Examples of Wildlife Enhancement Features



Example of Ibstock enclosed bat box



Schwegler 1FR integrated bat tube



Traditional bird box.



Sparrow nesting terrace.



Bee brick



Hedgehog hibernation box