Bat Activity Surveys and Reasonable Avoidance Measures for Great Crested Newts at Moss Bank Farm, Borras Road, Borras Head, Wrexham LL13 9TN Grid Ref. SJ 3590 5306 on 31st May and 5th and 21st July 2020 and 5th January 2021

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Introduction

The buildings were the subject of a preliminary ecological appraisal on 3rd December 2019 which concluded that further surveys were needed on some of the buildings to establish whether they were being used by bats and the nature of that use if any.
Due to the close proximity of several ponds associated with the adjacent Borras Quarry it was also considered necessary to implement reasonable avoidance measures (RAMs) to protect great crested newts (GCN) from harm and preserve their conservation status.
It is a criminal offence to harm a great crested newt.
GCN spend most of their time on land, returning to still water only to breed once they are mature at about 3-4 years of age.
They may travel more than kilometre from their breeding pond.
They move about mostly at night, and by day creep underground or beneath shelter such as stones or logs.
They hibernate during the winter, which is generally from the beginning of November until late March, depending on the weather. Hibernation is underground in burrows made by other small animals or beneath substantial cover such as large stones or piles of logs.

Methodology

Two dusk emergence surveys and a pre-dawn re-entry survey were carried out to establish whether the buildings were being used by bats and the nature of that use if any. These were carried out in accordance with Collins J. (Ed) (2016) *Bat surveys for professional ecologists: Good practice guidelines (3rd Edn)*. The Bat Conservation Trust, London.) and *Bat Worker's Manual,* JNCC (McLeish, A. P. and Mitchell-Jones, A. J., 2004)
Frequency division detectors were used to record any bat sounds for later analysis on the computer. These were Anabat SD1, Peersonic RPA3, Song Meter SMZC, Anabat II, Anabat Express and Echo Meter EM3.

An inspection of the area to be affected and immediately surrounding area was carried out by the appointed Ecological Clerk of Works (ECoW) Sue Worsfold on 5th January 2021. The owners and contractors were present and were made aware of the Reasonable Avoidance Measures including the need for careful removal of logs, bricks and rubble as shown in the photographs. It was agreed that a copy of the RAMs would be kept on site and all contractors made aware of them. Identification, legislation and ecological importance of GCN were explained to those present.

Personnel:
Susan Worsfold (SW), Hannah Williams (HW), Joy Miles (JM), Craig Thomas (CT) and Michael Miles (MM)

Activity Surveys

31/5/20

Number of observers: 4
Observer 1: SW; equipment: Peersonic RPA3; Station: south west corner of site
Observer 2: MM; equipment: Anabat SD1; Station: north east corner of site
Observer 3: JM; equipment: Echo Meter EM3; Station: east corner of site
Observer 4: CT; equipment: Song Meter SMZC ; Station: south east corner of site
Internal equipment: Anabat Express and Anabat II

Bat species seen and/or recorded:

First bat:
Noctule (*Nyctalus noctula*)
Time: 21.43; *Location*: CT station
Subsequently: Frequently, CT station and once, SW station

Other species:

Common pipistrelle (*Pipistrellus pipistrellus*)
Time: 21.48; *Location*: MM station
Subsequently: Once, SW and CT stations

Soprano pipistrelle (*Pipistrellus pygmaeus*)
Time: 21.48; *Location*: MM station
Subsequently: Frequently, MM station and once, SW and CT stations

Myotis sp. Probably whiskered bat
Time: 22.58; *Location*: MM station
Subsequently: None

No bats were seen to emerge from the buildings and bats were only briefly and occasionally seen foraging or commuting nearby. No bats were recorded on the internal detectors.

5/7/20

Number of observers: 4
Observer 1: SW; equipment: Peersonic RPA3; Station: south west corner of site
Observer 2: MM; equipment: Anabat SD1; Station: north east corner of site
Observer 3: JM; equipment: Anabat SD1; Station: east corner of site
Observer 4: HW; equipment: Echo Meter EM3; Station: south east corner of site

First bat:
Common pipistrelle (*Pipistrellus pipistrellus*)
Time: 21.54; *Location*: MM station
Subsequently: Frequently, MM station and SW station

Other species:

Soprano pipistrelle (*Pipistrellus pygmaeus*)
Time: 22.02; *Location*: MM station
Subsequently: Frequently, MM station and SW station

Noctule (*Nyctalus noctula*)
Time: 22.21; *Location*: SW and JM stations
Subsequently: Once, SW and MM stations

Myotis sp. Probably Daubenton's bat
Time: 22.54; *Location*: MM station
Subsequently: Frequently, MM station until 23.14

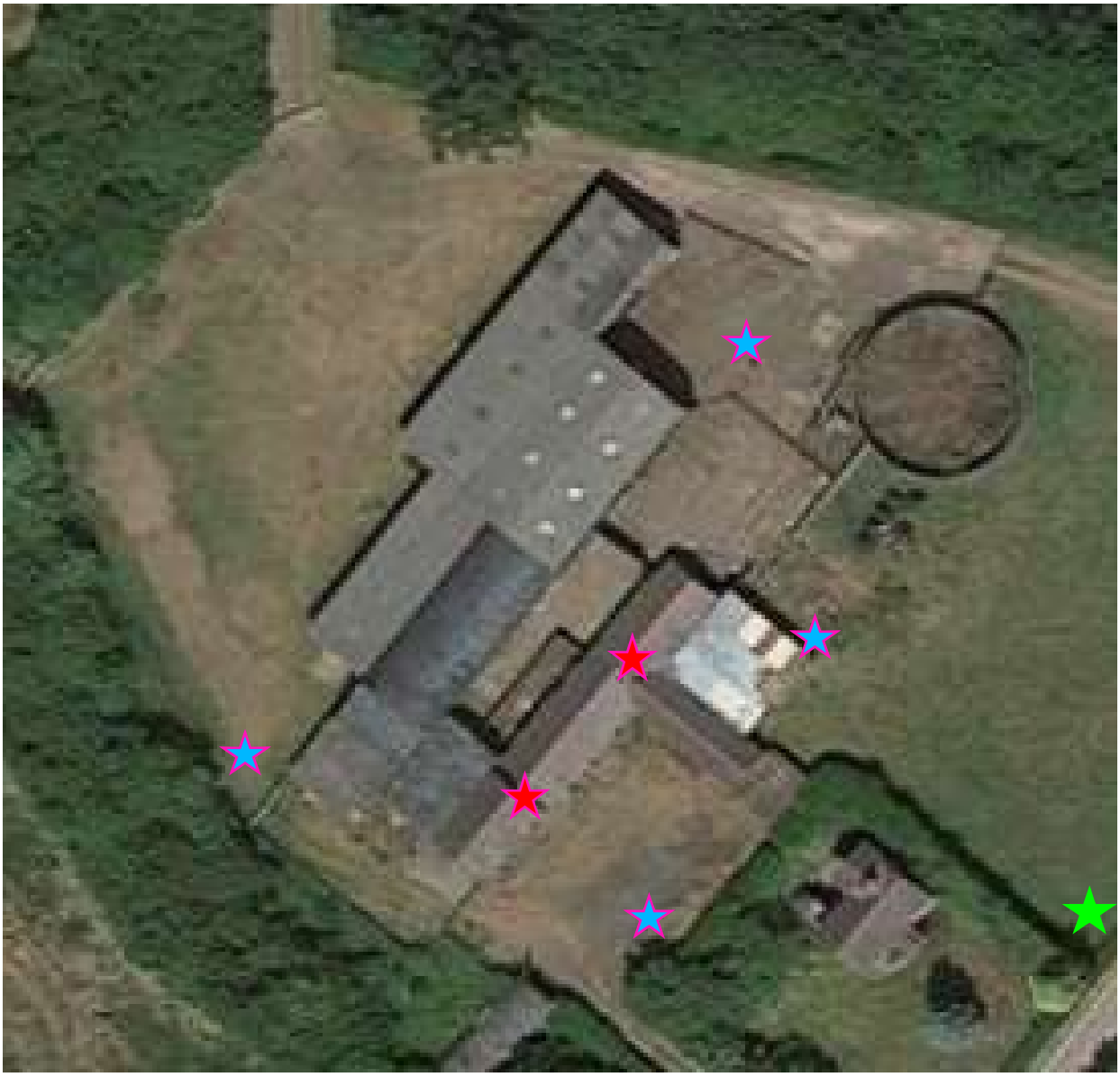
No bats were seen to emerge from the buildings and bats were only briefly and occasionally seen foraging or commuting nearby.

21/7/20

Number of observers: 4
Observer 1: SW; equipment: Anabat Express; Station: south west corner of site
Observer 2: MM; equipment: Song Meter SMZC; Station: north east corner of site
Observer 3: JM; equipment: Anabat SD1; Station: east corner of site
Observer 4: HW; equipment: Echo Meter EM3; Station: south east corner of site

No bats were seen or recorded during the survey.

Location of Bat Detectors and Observers and Proposed Position of Hibernaculum



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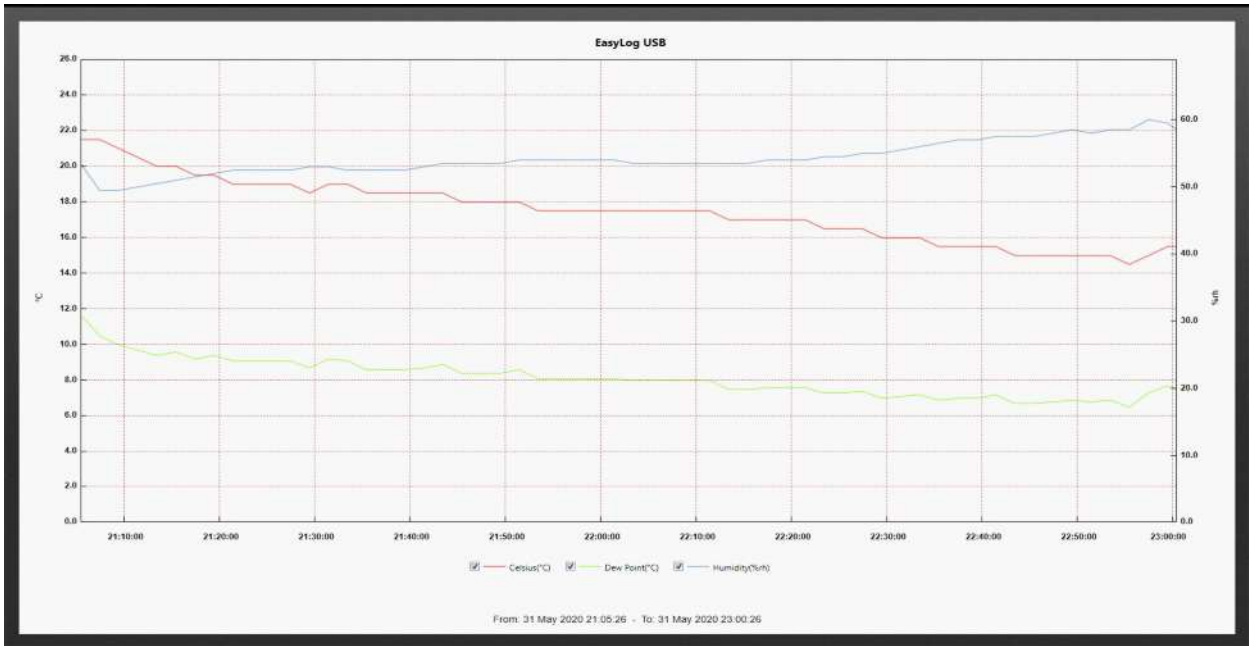
Bat detector

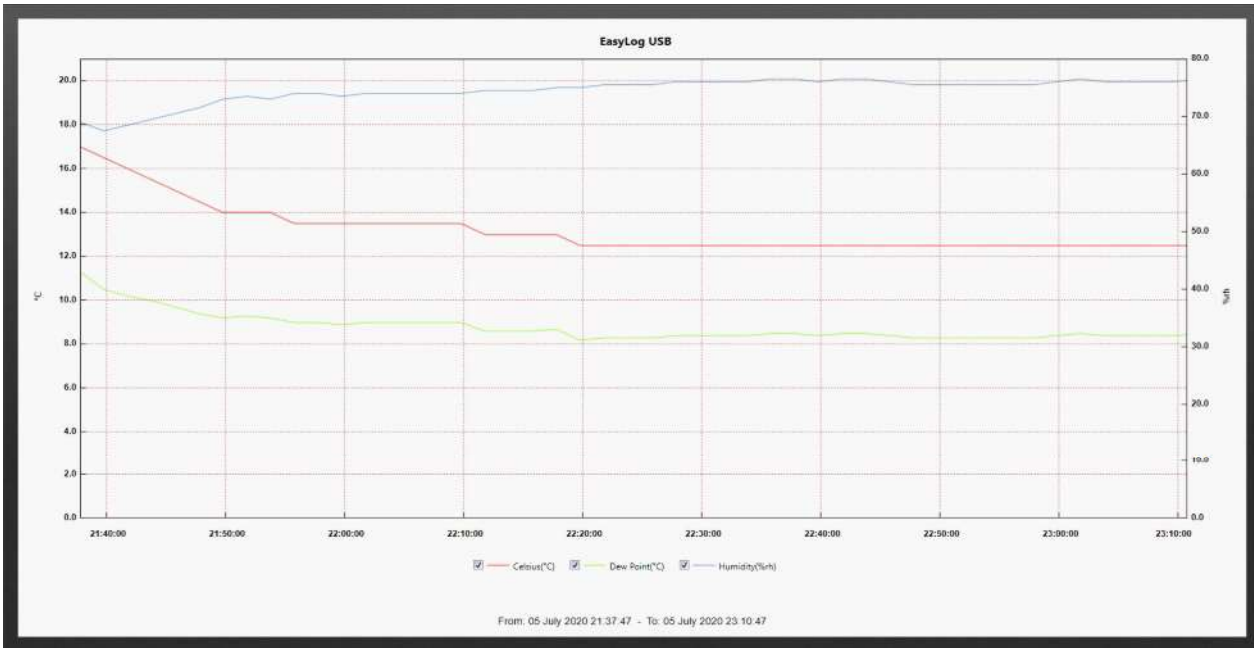
Bat detector and observer

Proposed location of hibernaculum

Survey Conditions

Date	Sunset/ Sunrise	Start	End	Temp Start °C	RH Start %	Temp End °C	RH End %	Cloud %	Wind 0-6
31/5/20	21:27	21:10	23:00	18	52	14	58	10	0
5/7/20	21:38	21:20	23:15	16	68	12	76	90	0
21/7/20	04:47	03:15	05:00	8	87	8	89	0	0





Assessment of Effects and Mitigation Measures

Bats: There is not considered to be any threat to the conservation status of bats as none of the buildings were being used by roosting bats at the time of the surveys.
However, the buildings and site are being used by foraging and commuting bats and four species of bat were identified nearby.
It is possible that transient bats may temporarily roost or perch in the buildings in the future, therefore care must be taken as there may be danger of harm to individuals.
If bats are found at any stage of the development then work in that area must stop and a licensed bat worker contacted for advice.
A lighting plan should be designed in accordance with the Bat Conservation Trust guidelines:

Great Crested Newts: There is a possibility of harm to individual GCN due to the close proximity of a known population at the nearby quarry. Three of the ponds are within 250 m of the site. Although there was very little foraging potential in the area to be affected for GCN, there were significant opportunities for shelter under piles of wood and bricks.
Therefore Reasonable Avoidance Measures must be taken as described on page 8.

Compensation

None recommended as no roosting sites affected.

Enhancement Recommendations

Bats: Two bat boxes e.g. Schwegler 1FF to be fitted externally to the converted building. Further information is given in the bat box information pack available at http://www.bats.org.uk/index.php. Bat boxes should be placed in a south east to south west facing position if possible.

Great Crested Newts: A hibernaculum to be constructed as shown on pages 5 and 9.

In addition to the provision of bird boxes as described in the previous report at least two wildlife friendly trees or shrubs will be planted on site, such as e.g. bird cherry (*Prunus padus*), wild cherry (*Prunus avium*), crab apple (*Malus sylvestris*), rowan (*Sorbus aucuparia*), *Amelanchier laevis*, spindle (*Euonymus europaeus*), alder buckthorn (*Frangula alnus*), strawberry tree (*Arbutus unedo*) holly *(Ilex aquifolium)* or hawthorn (*Cratageous monogyna*). These would also be attractive and a fairly manageable size.

Ecological Constraints

None identified.

Monitoring

Not considered necessary.

Reasonable Avoidance Measures with Regard to Great Crested Newts

1. Any vegetation should be kept below 10 cm in order to make it less attractive to GCN and other small animals. A licensed great crested newt worker will be appointed as Ecological Clerk of Works (ECoW)

2. An artificial hibernaculum should be constructed near the site, suggested location shown on aerial photograph. Suggested design given on page 9.

3. Removal of potential refuges, such as the piles of rubble and logs shown on page 10, should be done carefully by hand.

4. Any trenches should have a ramp of earth at each end to enable any animals to escape. All trenches must be inspected carefully before infilling, and any animals carefully removed and removed from the area to a place of safety.

5. Any open pipework should be capped overnight. All open trenches and pipework should be inspected at the start of each working day to ensure no animal is trapped.

6. If any trenches cannot be filled the same day they will need a ramp of earth at the ends of the trenches, to the full depth of each trench, so that newts can climb out. It is not sufficient to leave a piece of wood against the sides, which would allow small mammals to escape, but not newts, which are not good climbers. The trenches must be inspected carefully before infilling, and any animals carefully removed and released into the surrounding hedgerows (but also see paragraph 11 below).

7. Building materials should be stored clear of the ground (say, on pallets) so as to avoid crushing any animals which might seek refuge under them, when the materials are lifted. Any such storage must be on the drive or other hard surface, and not on a lawn or other soft surface.

8. Bulk materials should be used on the same day as delivery where possible to reduce the likelihood of GCN taking shelter underneath.

9. Any excavated material which is not replaced on the same day must either be removed from the site or stored on a hard surface and covered with an impermeable membrane, such as a plastic sheet or tarpaulin, and the edges of the sheet secured so that no amphibians can gain access.

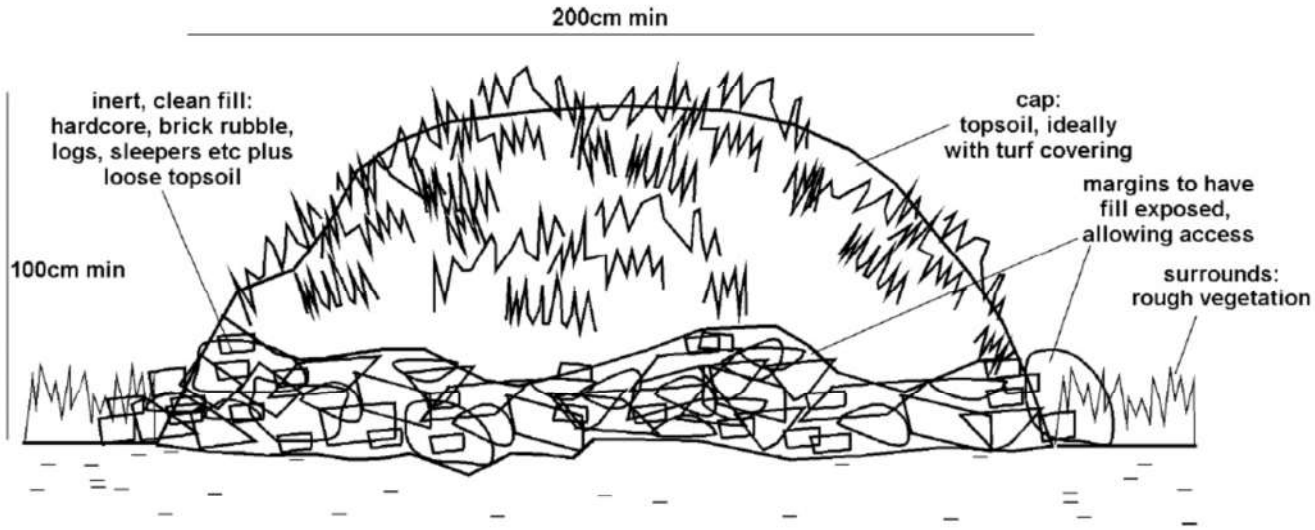
10. If any great crested newt is discovered in the area of the work, then work in that area must stop and the ECoW contacted immediately for advice.

11. A copy of these measures should be displayed on site for the duration of the work.

12. The ECoW may visit the site at any time during the development to verify that the measures above have been put into place.

Suggested Hibernaculum Design (*Natural England 2001***)**

This design mimics artificial and natural conditions in which great crested newts have frequently been found overwintering.
Dimensions should not be below 2m length x 1m width x 1m height. The illustrated design would be suitable for locating on an impermeable substrate. On free-draining substrates, the design is largely similar but the bulk of the fill is sited in an excavated depression in the ground.



Photographs of the Site Taken on 5th January 2021













Photographs of the Site Taken on 5th January 2021





Bibliography

Bat Conservation Trust available at: http://www.bats.org.uk/index.php

BCT and ILP Guidance Note 8 Bats and Artificial Lighting available at: https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

Collins J. (Ed) (2016) *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)*. The Bat Conservation Trust, London

Great crested newts: surveys and mitigation for development projects available at: https://www.gov.uk/great-crested-newts-surveys-and-mitigation-for-development-projects

Langton, T., Beckett, C., Foster, J. (2001) *Great Crested Newt Conservation Handbook.* Halesworth: Froglife

Mitchell-Jones, A. J. and McLeish, A. P. (2004) *Bat Worker's Manual,* Peterborough: Joint Nature Conservation Committee

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

Legislation Relating to Great Crested Newts

Wales is home to six amphibian species. They need fresh water in which to lay their eggs or spawn and enough suitable habitat nearby to spend the rest of their year. They have declined in recent decades as ponds have disappeared or become polluted or acidified. Pond restoration and creation (even in gardens) is a great help to amphibian conservation.

All amphibian species spend a large part of their year foraging on dry land, and they need sheltered places to hibernate. Hedgerows and other areas of semi-natural habitat are vital for their survival.

UK legislation:
The most common species are protected from sale under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are:

Common frog, Rana temporaria
Common toad, Bufo bufo
Palmate newt, Triturus helveticus
Smooth / common newt, Triturus vulgaris
The legislation protects them from being sold or offered for sale to protect them from exploitation in the pet trade or laboratory use.

European legislation:
Our rarest amphibians are protected under the Conservation of Habitats and Species Regulations 2017 (known as 'the Habitats Regulations'). The Habitats Regulations lists the following amphibian European Protected Species (EPS):

great crested (or warty) newt, Triturus cristatus
natterjack toad, Bufo calamita
Under the Habitats Regulations, it is an offence if you:

deliberately capture, injure or kill any wild animal of an EPS,
deliberately disturb wild animals of any such species,
deliberately take or destroy the eggs of such an animal, or
damage or destroy a breeding site or resting place of such an animal
Disturbance is defined as that which is likely to impair the ability to survive, breed, reproduce, or nurture young, or to hibernate or migrate.

There are other offences relating to possession, transport and sale. See 'Possession and Sale of Protected Species' for more information.

The great crested newt and natterjack toad also receive protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) from the following:

disturbing whilst occupying a place of shelter or protection,
obstructing access to a place of shelter or protection,
sale / offering for sale

Licensing for activities involving European Protected Species:
In certain circumstances Natural Resources Wales may issue licences for activities involving European protected species, that would otherwise be offences.

Legislation Relating to Bats

All species of bats in the UK are European Protected Species (EPS). It is against the law to damage or destroy a bat's breeding site or resting place (known as a roost), or deliberately to capture, kill, injure or disturb a bat

Bats are the only mammals which can fly. They are warm blooded, they suckle their babies and are intelligent, social animals. British bats feed only on insects, of which they consume vast numbers to sustain their energetic lifestyles. A pipistrelle bat can eat up to 3000 midges in a single night!

We have 12 species of bat breeding in Wales. Many of these have suffered severe declines, not just in Britain but throughout Europe.

All British bat species are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. Bats have a unique relationship with humans, sometimes sharing our homes for part of the year. For this reason, Natural Resources Wales (NRW) deals with many hundreds of bat enquiries each year from householders.

Under the Habitats Regulations, it is an offence if you:

deliberately capture, injure or kill any wild animal of an EPS
deliberately disturb wild animals of any such species
damage or destroy a breeding site or resting place of such an animal
Disturbance includes, but is not limited to, any disturbance which is likely:

1. to impair their ability –
to survive, to breed or reproduce, or to rear or nurture their young, or
in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

2. to affect significantly the local distribution or abundance of the species to which they belong.

Defra and the Welsh Government will publish a joint guidance document on the interpretation of the offences relating to disturbance, and to damage and destruction of breeding sites and resting places.

There are other offences relating to possession, transport and sale.

NRW issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

If you are a householder and have concerns about bats at your property (other than queries related to planning applications or a development), contact the NRW Enquiry Line for advice, telephone 0300 065 3000