

# **PHASE 1 / PRELIMINARY ECOLOGICAL APPRAISAL, BAT PHASE 2 & MITIGATION REPORT**

**Site name: Crossways Farm, Clyro, Powys HR3 6JY**

Commissioned by: Mr & Mrs Bailey

Date: Ver. 1.0 06-09-2023



**europaeus land management services (ecology)**

**Director: Stephen P.B. West MSc MCIEEM PrCMA**

**01568 611736**

**Sub offices: Herefordshire, Cheshire, Oxfordshire**

**Office email: *ecology.susan@hotmail.co.uk***

# CONTENTS

SUMMARY .....5

1 INTRODUCTION.....7

    1.1 BACKGROUND

    1.2 ECOLOGICAL CONTEXT

    1.3 PRECAUTIONS & PROVISIO

2 METHODS .....9

    2.1 PRELIMINARY ECOLOGICAL APPRAISAL / SURVEYS

    2.2 OBJECTIVES

    2.3 BATS

    2.4 BREEDING BIRDS

    2.5 CRESTED NEWTS

    2.6 BADGERS

    2.7 REPTILES & AMPHIBIANS

    2.8 WATER VOLES

    2.9 HEDGEHOG, HARVEST MOUSE, BROWN HARE & POLECAT

    2.10 HAZEL DORMOUSE

3 RESULTS .....15

    3.1 LOCATION AND DESCRIPTION

    3.2 HABITATS & FEATURES

    3.3 PROTECTED ANIMAL SPECIES

    3.4 BATS

4 EVALUATION & RECOMMENDATIONS.....24

    4.1 HABITATS

    4.2 PROTECTED ANIMAL SPECIES

    4.3 EUROPEAN PROTECTED SPECIES LICENCES.

5 LEGISLATION .....27

    5.1 INTRODUCTION

    5.2 PROTECTED SPECIES

## REFERENCES

Appendix 1: Survey Photographs

Appendix 2: Aggregate bat data

Appendix 3: Implications of Survey Findings & Considerations for Proposals, Precautionary Working

Precautionary Method Statement and Summary Recommendations

**Author: S.P.B.W. Date: Ver. 1.0 06-09-2023** Checked: S.D.



### Report Author & Personnel

The survey was carried out by Stephen West MSc MCIEEM PrCMA, who is an ecologist with more than thirty years' experience of environmental consultancy, and forty years' of project management work and habitat management experience. He studied ecology at bachelors level at U.E.A. and possesses a Master of Sciences degree (with distinction) in Habitat Creation and Management and another similar relevant qualification from Oxford University. Stephen is a highly experienced ecological surveyor and consultant and represented Southern England on the inaugural National Council of the Bat Conservation Trust in the 1990's. He has worked with all types of wildlife, and with bats since the 1970's in the UK and abroad, and held an English Nature / Natural England licence to disturb bats for the purposes of science and education or conservation since 1991 (Survey licence no's **CLS001710 – Bat survey level 4, & CL20 Level 4 2015-15782-CLS-CLS** to survey bats of all species for scientific (including research) and/or educational purposes). He is a Registered Consultant under the Low Impact approach of the **Bat Mitigation Class Licence, Annexes B & D** with Natural England enabling us to provide speedier and less bureaucratic licensing for work on sites of low impact on the commoner bat species. Stephen is the founding chairman of the current Worcestershire Bat Group, and a foundation and currently serving committee (full, accredited) member of the West Midlands branch of the **Chartered Institute of Ecology and Environmental Management** and an and a fully accredited foundation member of the **Countryside Management Association**. He holds a number of Natural England and Natural Resources Wales protected species conservation licences including badger, great crested newt, barn owl and hazel dormouse.

Stephen was assisted by Dr Jane Sedgeley-Strachan PhD MCIEEM and Elaine Farrant, both experienced surveyors.

Our work has involved extensive development of mitigation plans and DEFRA / Natural England and W.A.G. / Natural Resources Wales licence applications, ecological impact assessments, ecological management plans and appearing as expert witness at public inquiry. Europaeus Land Management Services was established in 1993 and has held management and consultancy contracts with a great many organisations and private individuals.

**Our office is 100% powered by renewable energy and travel etc is carbon-offset against our own tree-planting schemes in Herefordshire and Oxfordshire.**

Information on legally protected, rare or vulnerable species may appear in this report. It is recommended that appropriate caution be used when circulating copies. Whilst all due diligence and reasonable care is taken in the preparation of reports, Europaeus Land Management Services accept no responsibility whatsoever for any consequences of the release of this report to third parties. It should be noted that we are an ecological practice and matters concerning the interpretation of legal matters should be considered appropriately and further advice sought if necessary. It should also be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

# Executive Summary

1. A Phase One / Preliminary Ecological Appraisal survey for protected species and habitats issues was undertaken at the survey site (Crossways Farm, Clyro, Powys HR3 6JY) consisting of a dwelling house and associated curtilage, several agricultural barns and associated yard and adjacent pasture, including the boundaries of such and the habitats bordering, during the spring/summer of 2023. A full ecological scoping preliminary survey for protected species and habitats issues in this area, and an ecological appraisal were carried out to best practice guidelines drawing evidence from aerial photographs, desk-based tools and typical associations from the habitats present on the site and surrounding land. This work augmented earlier work undertaken by a separate consultancy company and reported upon in their report (KG Ecology, October 2022).
2. An assessment was made for any implications of proposed development works at the survey site, namely and variously building demolition and replacement.
3. During the site survey evidence for the presence of protected species was sought, searching for signs of bats in the structures, badgers, amphibians and reptiles, hazel dormice, water voles, nesting birds etc and for important habitat types.
4. Some evidence of structural bat use of the house was earlier identified via faecal droppings and a number of Potential Roost Features (PRFs) were observed. Potential was also identified for bird nesting upon the structures and nearby semi-natural habitats. Although this was only a one-off scoping survey and not a concerted species survey. Accordingly, we undertook three number bat activity surveys, under optimal conditions, during the optimal survey season.
5. The PEA survey of the site with current proposals for change left significant potential for oversight of ecological issues, and a programme of suitable Stage Two species surveys (for bats and birds) were recommended. However, with suitably advised and ecologically supervised programmes of work, following best practice guidelines and reasonable avoidance measures, and within the system of protected species licensing and planning control it was perceived that an opportunity to enhance biodiversity at the location was present given the great scope and potential.

6. Optimal season surveys were therefore instructed and completed in the current season to give a full understanding of the use of the site by bats sufficient to enable planning considerations and to develop an appropriate mitigation strategy. This work and assessment have now been completed.
7. No other protected species or likely habitat issues were identified associated with the specific site structures and their immediate surrounds other than roosting bats, except seasonal bird nesting, although please do note the extent of the primary purpose of this survey as an ecological appraisal.
8. Based on the nature of the site, its location and the observable evidence from all of the survey work completed, the conclusion made, within the extent of knowledge of the planned work (structural disturbance, demolition and replacement with obvious potential for impediment to bat access or use of roosting locations), is that the work does present potential for disturbance to use by common pipistrelle roosting bats in a probable maternity assemblage (on one of the barns), as a solitary individual on the house, as well as solitary soprano pipistrelles (one each to two other locations on the house and a further small barn) and a single long-eared bat on the house), as well as to other protected species (birds only), and that a precautionary approach to structural disturbance is recommended at the appropriate time following the acquisition of a suitable mitigation licence under appropriate licensing.
9. A search of records held by the county biological records centre is also now recommended and will be required as a condition of the licensing process.
10. **Our overall recommendation, therefore, based on our confirmation of the nature of current bat use of the structures, is to follow careful proposals for the site development scheme desired, and to pursue a precautionary approach to any works once all necessary consents and a government “disturbance” licence are obtained.** A full EPS protected species licence will be required from Natural Resources Wales to enable these works to take place.
11. For ease of understanding, English vernacular names of common species are used throughout this report. A full scientific species list can be made available if requested.

# 1. Introduction

- 1.1 **Background:** Europaeus Land Management Services was commissioned by Mr and Mrs Bailey, to carry out a Phase One and protected species and habitats / Preliminary Ecological Appraisal assessment survey of the identified site:- Crossways Farm, Clyro, Powys HR3 6JY (parts of which form the “survey site”). Issues pertaining to protected species and habitats were addressed. This report follows an earlier appropriate survey by a separate consultancy and has been commissioned and prepared in proportionate accordance with best practice guidelines for ecological appraisal and impact assessment set out by the Chartered Institute of Ecology and Environmental Management (2012, 2006) and relevant survey handbooks. It is also intended to align with the British Standard for Biodiversity BS 42020 (BSI 2013) and the Planning Policy Wales (PPW)/National Planning Policy Framework. Where deviations from these guidelines are made justification is provided. This report sets out the findings of the survey and provides recommendations in the light of those findings. Any proposal to disturb or carry out development to parts of a rural site could potentially involve disturbance to any species and natural or semi-natural habitats present or dependent. Consequently, there would be the possibility of direct or indirect disturbance to some parts which may have potential for use by vulnerable protected species, hence the need for this qualified survey approach. The PEA and habitat assessment were originally undertaken in the autumn of 2022 (October) and then continued in the late spring of 2023 (24-05-2023) with dedicated search made by exploring the whole relevant identified site, the buildings involved and immediately surrounding land. Additional Phase Two surveys for bats have been carried out in the current year.
- 1.2 **Ecological context:** The site is that of a single dwelling, serving the active farm with associated agricultural barns and outbuilding structures though all of a mid-twentieth century age or younger. The house is bordered to the north by a road, and elsewhere surrounded by grazed pastures in a region of moderately sized and hedge-demarcated fields. The nearest block of mature trees is about 0.2km to the south, while the riparian corridor of the River Wye is some 1.5km to the east. The mature and extensive hedgerow network bounding fields and roadsides provides shelter and connectivity of natural or semi-natural habitat for wildlife. The area is one of a largely rural type with opportunity for light-averse species such as some bats to be able to safely fly and forage.

1.3 **Precautions & Proviso:** Deemed a significant likelihood, given the evidence identified on the initial survey, the location, site history, use and nature of the structures and habitat types identified, while it could not be entirely ascertained to what extent protected species are using this location, this was regarded as of the higher order of likelihood. However, it was not possible on that assessment to determine to what level of use of the location is made by breeding birds, roosting bats, small terrestrial mammals and herptiles for instance though they have been appropriately considered, and further work was therefore recommended. The emphasis of the survey concentrated on the potential impacts directly on the house, and the immediate curtilage location. Also, many species are cryptic or mobile and might take up residence or commence behaviour associated with any site at any time. Thus, as with all such surveys, this was merely a “snapshot” in time. Following subsequent, full species surveys as detailed, covering all structures at the location we deem a satisfactory coverage has been achieved. Once all necessary consents are in place, full ecological supervision and pre-disturbance update checks of any of the site buildings prior to the commencement of any disturbance works are recommended. It must be noted that work schedules may well be affected by the presence and use of protected species. The survey work, now completed, has enabled a better understanding of the use of the site and produced tailored recommendations for appropriate mitigation, suitable compensation and biodiversity enhancement.

## 2. Survey methodology

- 2.1 **Background data search:** A search of records held at the biological records centre has not yet been done but this is recommended at an early stage, ideally involving a search of databases at the local Biological Recording Centre within a 1km radius of the site location.
- 2.2 **Preliminary Ecological Appraisal, Habitats and Species:** The detailed methodologies for the survey followed a considered and proportionate approach to best practice recommendations in Guidelines for Preliminary Ecological Appraisal (IEEM, 2012), with regard to Guidelines for Baseline Ecological Assessment (Institute of Environmental Assessment 1995), Institute of Ecology and Environmental Management Professional Issue Series (IEEM 2006), and to relevant survey handbooks. It is also intended to align with the British Standard for Biodiversity BS 42020 (BSI 2013) and the National Planning Policy Framework. The phase 1 habitat survey was in proportionate accordance with the guidelines set out in the Handbook for Phase 1 Habitat Survey (JNCC 2010).
- 2.3 **Survey objectives:** The first objective of the survey was to categorise the survey site as identified and highlight any potential issues pertaining to protected species and habitats. The objectives of the survey methodology were to identify protected or locally valued species or habitat types at the survey site, and assess their uses of the location with a view to potential impacts of specifically proposed works to the identified site and vicinity; similarly, to make an assessment of the presence or possibility of any protected species, and to assess the possibility of the site being occupied by protected species etc. A full walkover “scoping” preliminary assessment of the site and habitat components was undertaken examining features for the presence of protected species and assessing the likelihood of their occupation or use. The suitability of habitats for any protected animal species was assessed at the same time as the Phase 1 Habitat Survey and any incidental evidence of such species was recorded if encountered. Species that might be expected to be present in the geographic location include bats of a range of species, badger *Meles meles*, hazel dormouse *Muscardinus avellanarius*, and otter *Lutra lutra*, near waterbodies and watercourses, nesting birds, great crested newt *Triturus cristatus*, and other small mammal, amphibian and reptile species (herptiles). The relevant habitat types to consider was the domestic building and immediate curtilage.

2.4 **Bats:** This full survey, including a thorough and systematic visual examination of the house, farm buildings, along with any trees onsite and surrounding, adjacent to the site, for signs or presence of bats was undertaken, looking for any bat-accessible voids, structural cracks, tree rot holes and woodpecker holes etc, by a highly experienced ecologist. High powered and small beam torches were available to be utilised, with the components viewed in detail from all aspects. Binoculars, thermal imaging equipment and a flexible video endoscope were available to be employed. Comprehensive and systematic search was made in detail to crevices etc for bats, their droppings, food remains or characteristic grease marks at potential exit and entrance points. The building was thoroughly investigated internally and externally for signs of or potential for bat use. A considered and proportionate approach to survey protocols as described in *Bat Surveys: Good Practice Guidelines* (BCT 2007, revised 2016), the *Bat Mitigation Guidelines* (English Nature 2004), and the *Bat Workers' Manual* (JNCC 2004) was adopted.

**Limitations:** The optimal survey period for the characterisation, mapping and assessment of the presence and nature of protected species (bats) present on a site in this geographical region, to the level required for a comprehensive ecological assessment, is May - August inclusive which period is the optimal survey period for bats on a site in this geographical region, to the level required for a comprehensive assessment. Bats are active at this season and their droppings and other field signs, whilst typically cryptic and requiring detailed search, will nonetheless be apparent to the experienced surveyor. However, with recent changeable weather trends, bats are known to have, in some circumstances, altered their movement and occupation patterns. This full scoping survey, including the nature of the site buildings and trees, was deemed to have taken place adequately for a scoping assessment with the aid of a flexible endoscope, binoculars, thermal imaging and ultraviolet light transmission equipment. The site and all trees, and the immediate surroundings, had no significant other inspection limitations other than high level access for the building and above felt zones present. The range of potential roost features (PRFs) showed potential for bat use and which features would not necessarily have had obvious signs of use by bats. No adjacent trees are proposed for cutting back or removal within the site works and whilst some of the trees further afield in the area do possess a range of suitable features, and the site was deemed to offer good foraging and commuting potential for a range of bat species, none of this would be affected by the current proposals. Thus, it should be noted that the initial investigation of the site represented a bat and other protected species initial appraisal and, due to the specific limitations identified, we felt it is at

least conceivable, and somewhat possible in this case, that relevant species and habitat matters may have been overlooked as visits may miss species not apparent at the times of survey by reason of surveyor access, seasonality, mobility, habits or chance. Further seasonal work was therefore required. Particular seasonal limitations are indicated. Weather conditions were acceptable at the time of the scoping survey for this type of approach.

Signs of bat activity searched for included:

- Droppings - these can contain fragments of insect exoskeleton and will crumble to dust (unlike those of small rodents, which typically become hard). Bat droppings will stick to surfaces including walls, windows and window ledges and may also become caught in spider webs near 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, have seasonal preference for moths of the *noctuid* family the accumulated wings of which identify this bat as being present.
- Oil staining - the fur of bats may leave an oily residue on surfaces close to occupied roost sites and access/egress points.
- Smell – most bat species have an identifiable aroma while certain species, such as the noctule (*Nyctalus noctula*), are noted for their “smelly roosts” due to urine scent marking activity.
- Daytime 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.
- Scratching - scratch marks produced by the claws of many bats may be apparent close to the access point for a well-used roost.
- Dead bats, either older or especially babies within maternity roosts.
- Pupae of the bat fly.
- Tracks in dust.

- 2.5 A follow-on bat activity survey series therefore was first commenced for a period over and prior to dusk on the night of 24-5-23 by a highly experienced ecological team of three, employing handheld and static time expansion, heterodyne and frequency division bat detectors. The “emergence survey” was undertaken for more than a minimum recommended period. Binoculars and night vision equipment were employed to visually monitor possible access points to the structures under survey. Observation of emergence or entrance or returns to roosting locations was sought including an assessment of the area immediately associated with the survey structures. Five recording units were set to record all bat activity for the duration of the survey including within all structures at the location as well as passing or nearby bats. Particular attention was paid to the survey buildings’ structural components and roofs where disturbance is proposed to identify any emergence or returns of bats. A further activity survey was carried out on the pre-dawn and dawn of the 24-8-23, and a third on the dusk of 20-6-23.
- 2.6 **Equipment and technology** employed included two Pettersson D240x® time expansion ultrasonic detectors, as well as a Peersonic RPA2 recorder, an Anabat SD1®, Anabat Walkabout®, Anabat Scout® and Anabat Express®, a Peersonic RPA3®, and a Bat Box Duet® frequency division and heterodyne ultrasonic detector all with MP3 recording devices, from Wildlife Acoustics:- two SMMmini® two EM3® and SM2® time expansion, frequency division, and heterodyne combined recording detector technology was employed. In addition, two Echometer Touch® devices recorded via an iPad 4® and an android device, all calls for live and subsequent analysis. Eight recording devices and detectors were sited surrounding the building. Night vision scopes, headtorches, red-filter torches and high-powered torches were all employed. The data acquired from all of the units was further analysed later on a mainframe computer running analysis software to confirm and extrapolate “in the field” identification.
- 2.7 For **breeding birds**, an assessment of possible nesting sites was taken during the survey visits and the site searched paying particular attention to the possible presence of all nesting and dependent species. A check for any identified nest sites and songposts was taken during the site visits.

**Limitations:** The May – June period is the optimal season for the identification of breeding bird assemblages where songbirds identify and defend nesting territories and sites, where vegetation is less dense than later and first broods might be expected to be observable. The

survey visits were thus within the optimal time to identify breeding territories and a further assessment is deemed unnecessary other than pre-commencement check as elsewhere described when any habitats suitable for nesting become due for disturbance.

2.8 For **crested newts**, a detailed search was made of the survey site including of aerial map scrutiny within and outside of the zone of disturbance, for signs or presence. A search was conducted for adults of the species under stones, timber etc on each occasion.

**Limitations:** There were no significant limitations to the survey effort dedicated to the wider site apart from access considerations to neighbouring private properties.

2.9 For **badgers**, the following signs were sought:-

- Setts and entrances
- Spent bedding material
- Footprints
- Runs
- Feeding signs
- Faeces including latrine sites
- Hair (pellage)

**Limitations:** A search for signs of badger activity can be undertaken at any season though early spring, when activity can be high following the winter and when undergrowth is less dense, is generally regarded as the optimum period. There were no limitations to this approach given the nature of the domestic curtilage. Other than a search for general signs over the period of the surveys as listed no further survey effort was undertaken.

2.10 For **reptiles and amphibians**, signs were sought of adults, juveniles, eggs, refugia and possible feeding, foraging and breeding habitat.

**Limitations:** The habitat was assessed for the possible suitability for these species, with a judgement made on whether sufficient habitat area and quality was available and whether suitable habitat within normal travelling distance was available nearby and that accessibility would be possible. There were no significant limitations to the survey effort dedicated to the site.

2.11 For **water voles** signs were sought for any suitable water bodies or water courses.

**Limitations:** The site was examined and scrutinised for evidence or suitable habitat types.

2.12 **Hedgehog, harvest mouse, brown hare and polecat.** These species are listed as priority species in the UK Biodiversity Action Plan (and as species of principal importance for the conservation of biological diversity in England under Section 74 of the Countryside and Rights of Way (CROW) Act 2000).

**Limitations:** There were no limitations within the scope of this survey other than the general access restrictions.

**Hedgehog, harvest mouse, brown hare and polecat.** These species are listed as priority species in the UK Biodiversity Action Plan (and as species of principal importance for the conservation of biological diversity in England under Section 74 of the Countryside and Rights of Way (CROW) Act 2000).

**Limitations:** There were no limitations within the scope of this survey other than the general access restrictions.

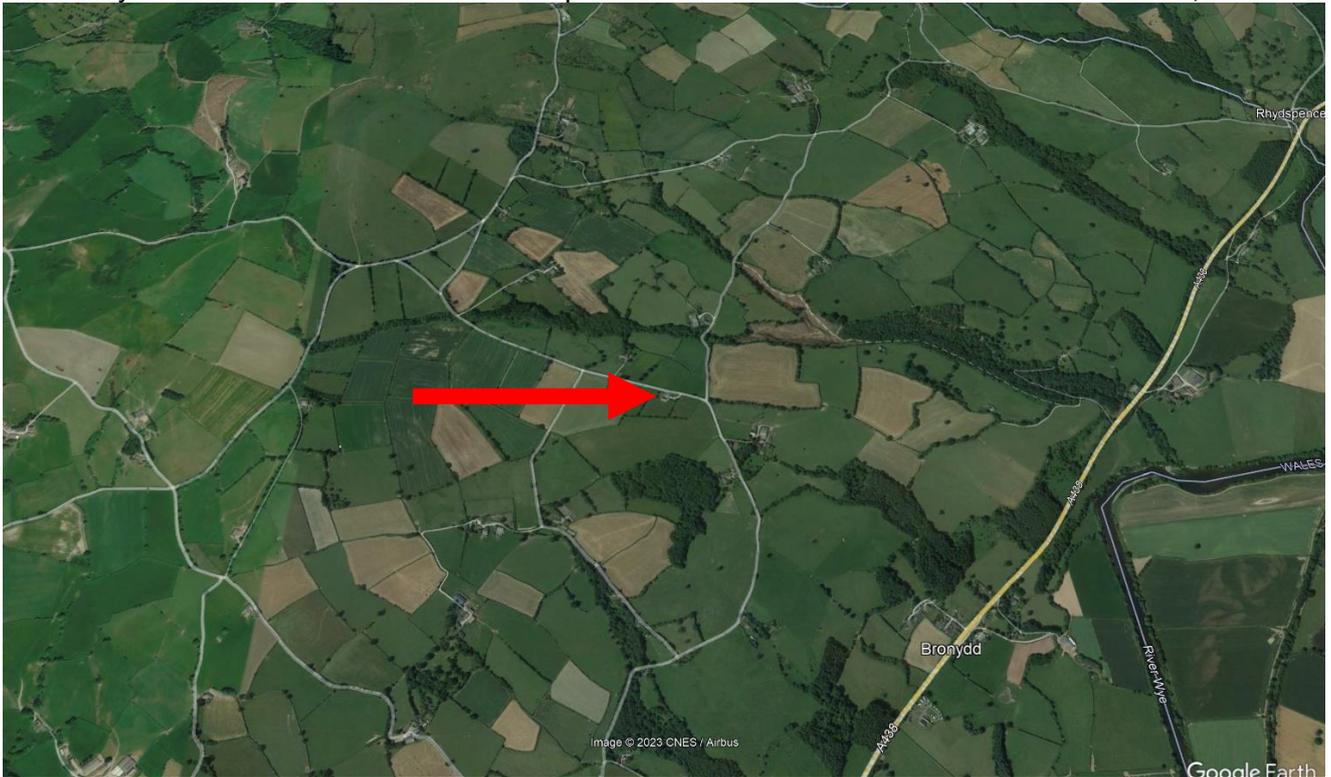
2.14 **Hazel dormouse.** Similar protective legislation to that applying to all bat species pertains to other species such as hazel dormice (*Muscardinus avellanarius*). As with bats, hazel dormice are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 which implements the EC Directive 92/43/EEC in the United Kingdom and Section 9 of the **Wildlife and Countryside Act 1981**. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

**Limitations:** The survey was limited to a preliminary assessment involving a simple walkover, looking for habitat suitability, and nest and feeding remains check only, and additional work beyond this considered appraisal, based on experience and the thorough contextual habitat investigation, was deemed unnecessary unless hedgerow and/or scrub management is planned.

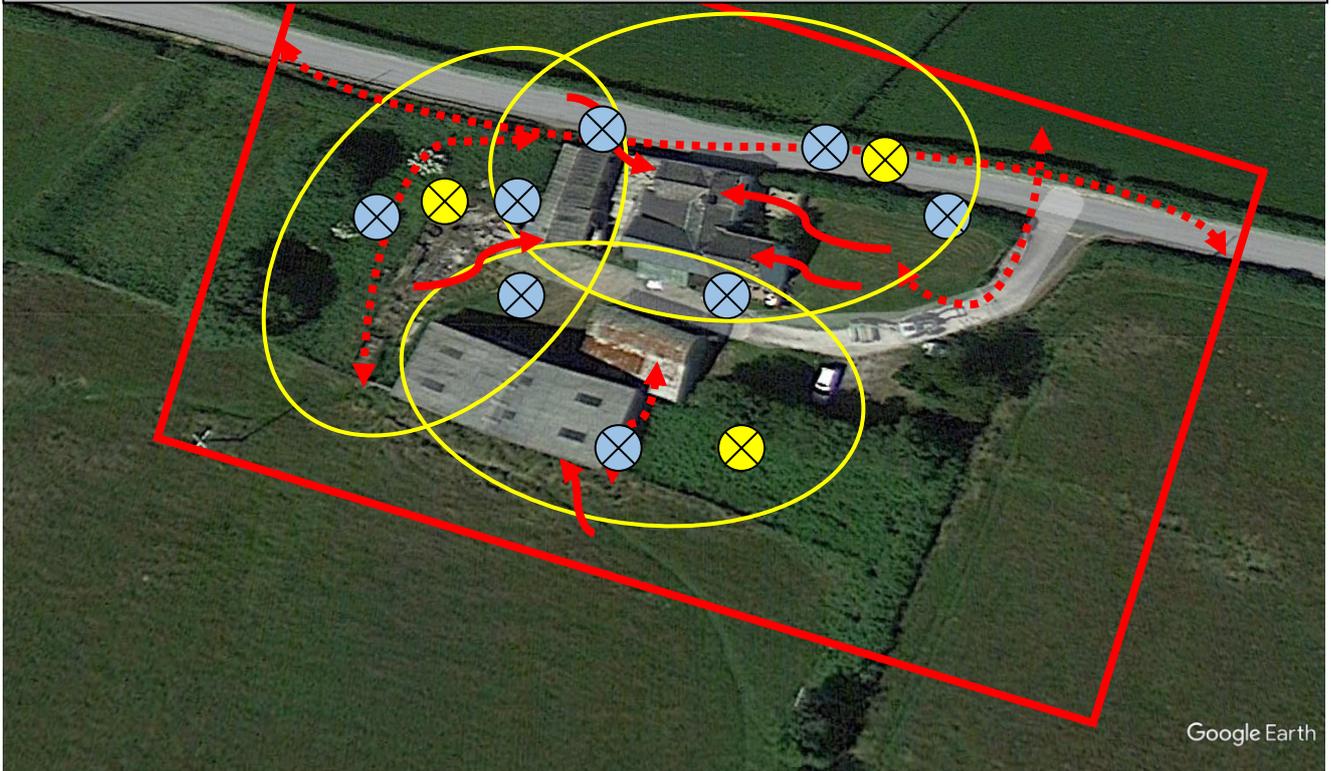
### 3. Survey results

- 3.1 **Location & description:** The survey location (at the centre of the farmyard) is at national grid reference SO 21706 45936, What3Words: *indoors.exhales.finer*. It is a working farm site with farmhouse, agricultural barns, yard and surrounding pasturage, some way distant from other properties, approximately 1.9km to the north of Clyro. The site is in a rural location, some 1.5km to the west of the Welsh border with England.
- 3.2 **Features: Structures:** The use of the site is as single residential dwelling in its own farmyard with several agricultural structures. The two-storey house is of mixed age and materials and includes additions to the original cottage structure. A detailed description is contained in the earlier report. To the south-west of the house is the larger of the barns being a portal framed structure with primarily corrugated metal sheeting walls and roof slopes but with notably at least two panels of corrugated fibre cement to the southern elevation. To the front (north) of this is a partially attached open-sided metal ("Dutch") barn. There is a smaller, single-storey agricultural building to the north-west of the house. This small barn has a ceiling within. All are used for agricultural purposes, being machinery storage, livestock housing and husbandry and kenneling. Beyond the above-ceiling area of the small barn there are no wall or roof voids, no timber features or enclosures and no other identifiable features of particular attractiveness to the dependent uses of bat species. The road is near to the north of the house and small barn, while the primary garden area is to the immediate east of the house. Between the house and small barn, and house and large barn are open yards. The survey paid particular attention to all aspects of the house and agricultural structures, also the wider area of proposed alteration, with a major consideration of the potential impacts of the removal of the existing buildings and ultimate replacement. (Please also see KG Report, Oct 2022).
- 3.3 **Habitats and Protected species.** Some signs of bat roosting use of the interior of the house lofts were identified on the initial investigative survey. There is obvious potential access for bats into parts of the roof and there are materials and features generally identified as being of attraction to the resting or roosting behaviour of bats. Subsequently, in addition to a consideration of bat roosts, potential for other protected species use by creatures such as reptiles, small mammals and badgers was determined. Although no signs of other protected species use or occupation of the site were seen then or since, there appeared to be scope for a passing use of the area of curtilage by small and medium sized mammals, breeding birds and invertebrates to at least access and pass through this part of the property and as might be

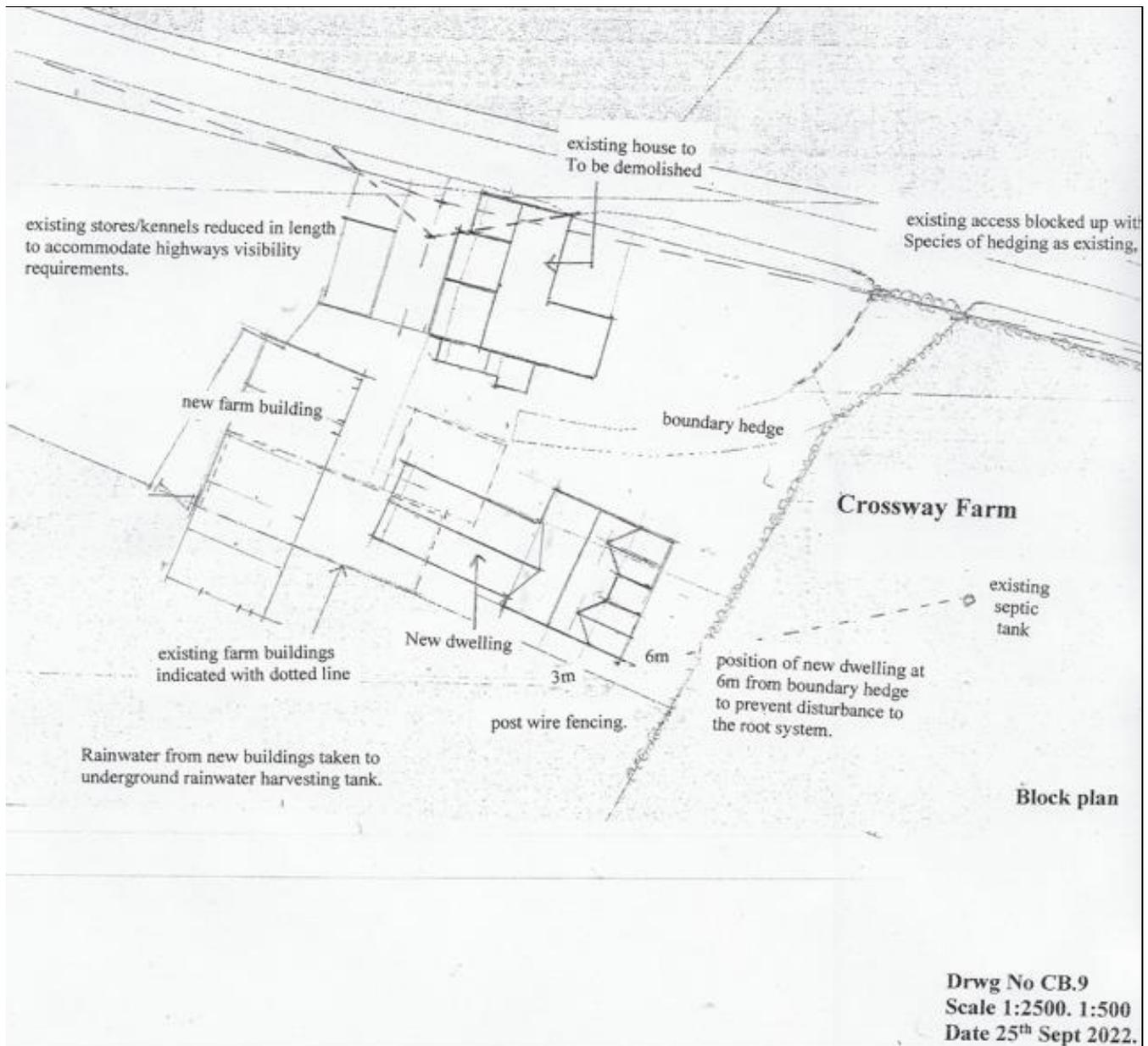
associated with the range of semi-natural habitats observed around the wider area. A very modest range of birds were identified (associated primarily with the trees and hedgerows to the boundaries), and some potential for nesting upon or within the structures was discerned. The hedgeline to the north-east links for a long distance with an extensive network, and whilst not species-rich was deemed to offer good potential for protected transit routes for wildlife, including bats. The house garden is small and very species poor and the nearby pastures are all agriculturally improved with a very narrow range of grass and “weed” species evident. There are no mature trees associated with the farmyard and buildings, nor were any waterbodies or watercourse present nearby.

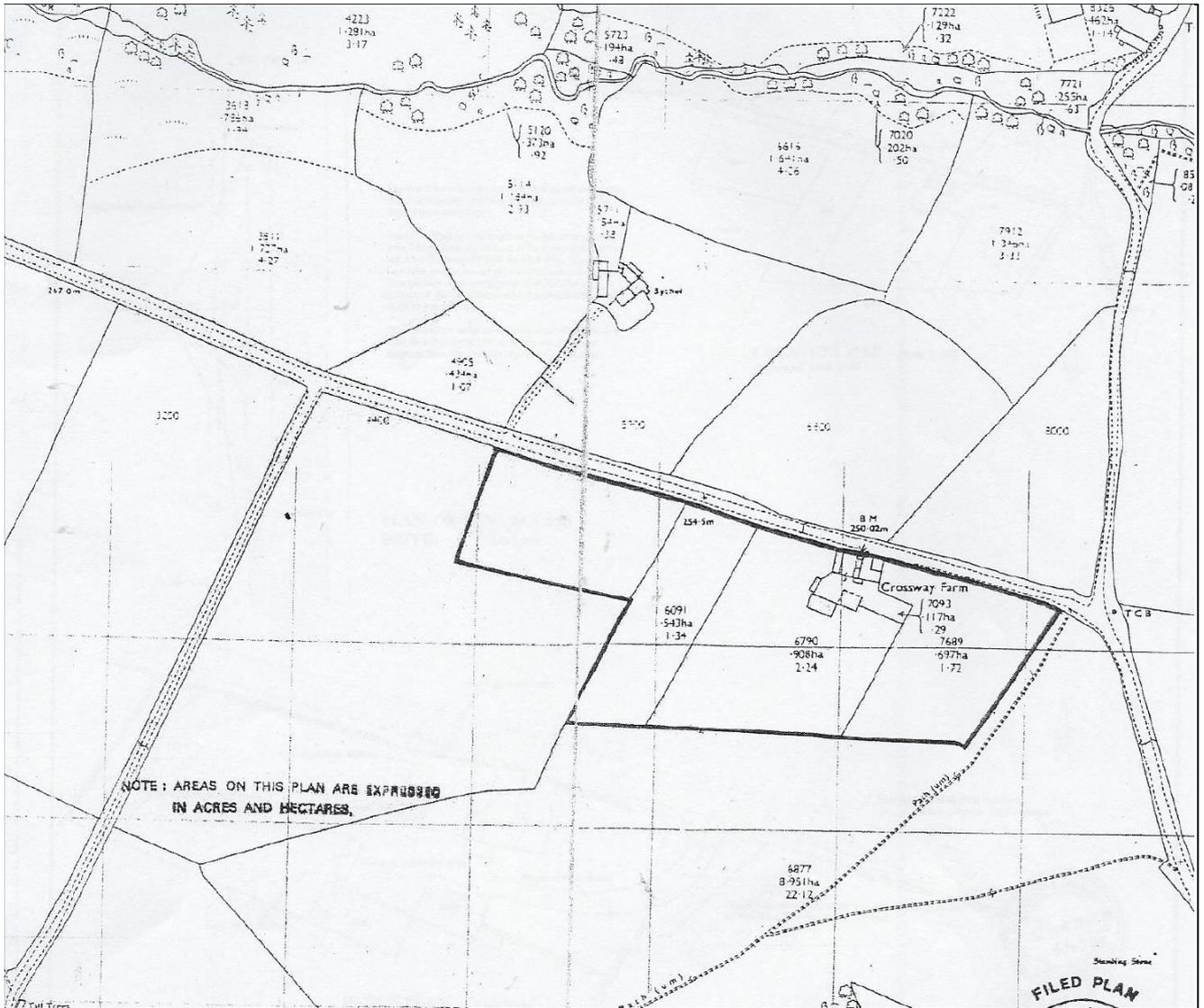


Figures 1, & 2: Site location images, aerial photographs and plan (redline boundary) of site as surveyed & where disturbance would take place; yellow indicates surveyors & their purview, blue statics, red arrows, bat flight zones and roost returns (solid)









- 3.4 **Species evidence: Bats.** All relevant and accessible areas of the site including all the buildings' interiors and exteriors, and any trees, were viewed on the survey. All surfaces were scrutinised for evidence of bats. Any accessible cracks in structure were examined in detail, including endoscopic and thermal imaging analysis where applicable. By these means direct evidence of a current or past bat roosting usage was initially identified in the form of scattered faecal droppings, primarily on the house and associated with fascias. These were collected for DNA sampling by the previous consultancy company, but the sample was lost. Suitable features for bat use were observed in areas of the roof at eaves, fascias, ridges and above felt / below tile gaps. The activity survey series, however, succeeded in identifying levels and nature of the current site bat use.
- 3.5 The activity (visual and detector) survey covered periods of good weather within the optimal survey season to identify bat use of a site in the geographical location. The survey work determined the site as the current identifiable roosting location of five active bat roosts. These are namely for a small number of common pipistrelle bats (a maximum observed of ten) on the large barn south-western elevation, vertical wall, as a likely maternity assemblage; a solitary common pipistrelle bat on the ridge of the house towards the eastern chimney breast); a solitary soprano pipistrelle bat roost on the house at a different location being the fascia of the southern slope of the north-western extension and a second soprano pipistrelle bat roost on the fascia of the eastern slope of the southern gable of the small barn; and a long-eared bat roost also on the house at the centre of the ridge near the chimney of the north-west aligned ridge. The soprano and long-eared bats are assumed to be non-breeding in the current year). In the cases of house roosts they are associated with roof ridges and timber fascias, On the small barn the roost is associated with a metal fascia and on the larger barn the colonial roost site is within an overlap of two vertical asbestos/cement panels to the south-western elevation. Numbers of occasional *Myotis* bats and *Noctule* bats use the area to forage, particularly and notably along the road for the *Myotis* and high overhead for the *Noctule* bats. The other bats identified were using the area to forage and commute, but none of this behaviour was associated with the house or farm buildings.
- 3.6 **Species evidence: Birds.** A presence of a range of the expected garden /woodland edge species was identified including old nest sites within or upon the buildings. Swallows are present in the barns. No ground-nesting species were identified within the area (though the nearby fields and main riparian corridor further afield do present significant opportunity).

- 3.7 **Species evidence: Amphibians and Reptiles.** No amphibians were observed either within the site vegetation, bare areas and so on but their presence cannot be ruled out and indeed is somewhat likely in the wider area such as the adjacent fields and hedge bottoms. Suitable habitats are present for common reptile use including patches of woody vegetation and southerly aspects etc and their resident presence must therefore be assumed (though almost none of this habitat is affected by the current proposals).
- 3.8 **Evidence gathered from other sources and contextual research.** There are known protected status sites in the wider region outside of the survey location though realistically none are close enough or likely to be affected by the site proposals. The area is known to be biodiverse and including for some protected species groups. A broad range of animal species and flowering plant species are known to be present in the area, particularly associated with the semi-natural habitats and riparian corridor in the area. Despite our survey not identifying signs of protected species other than bats it must be noted that absence of evidence or records cannot necessarily be used as proof of evidence of absence. A formal data search of records held in databases by the Local Biological Recording Centre is recommended as the project develops.

## 4. Ecological evaluation, appraisal and recommendations

- 4.1 These recommendations are made in order to facilitate proposed works at the site location, and to ensure compliance with local and national statutory planning policies, species protection and best practice. Planning authorities should aim to conserve and enhance biodiversity (NPPF para. 118). Additionally, where the loss of any trees is unavoidable, they should be replaced by appropriate native species (and pre-notified where tree protection orders or similar are present). **We recommend** no net mature tree removal within any of the area described within this report unless completely unavoidable, and unless non-native species are to be replaced with indigenous ones.
- 4.2 **Habitats & Features:** Apart from detailed consideration of bat roosts as identified at the location, the area of disturbance to the site caused by demolition and replacement of all structures as posited appears not to affect any significant area of semi-natural habitat or to offer any habitat of extreme rarity or exceptional nature, and we perceive no significant implications of the proposed works provided all due process is followed and replacement bat roosts are constructed within and upon the fabric of the replacement buildings. The primary habitat types to note, in addition to the structures themselves, nearby semi-mature garden trees etc, is the garden curtilage which possesses its own (rather low and very species poor) inherent value for a moderate range of species. Habitat to the south is agriculturally improved pasturage with a very narrow range of species and no obvious habitat diversity, though importantly very little of this is affected beyond the hard yard zone surrounding the house and farmyard structures. The site does have the potential for medium and smaller mammal species to pass through and to utilise for foraging, for breeding birds, for bats' roosting and foraging (as now identified), and potentially for the commoner amphibians and reptiles etc. Active bat roosts have now been identified on the activity survey suite, to add to the signs of internal use observed, and the range of PRFs. The importance of the site to provide suitable foraging and commuting for a small range of bat species has been shown. Roadside hedges are important primarily as a linear feature providing protection from wind and light exposure and, in the case of bats, some prey insect support. Where a new entrance is proposed the old existing entrance will be filled back in with a recommended native species mix of hedge. Further site-specific advice will be given to ensure that maximisation of benefit can be achieved from the management of the hedge complex. No net loss of connectivity will result of hedge habitat from the current plans. It is

therefore, our conclusion that it is possible that resident and certain mobile species could occasionally be present in parts of the site at certain times and consideration will need to be given to retaining a range of opportunities for them, now that all necessary survey effort has been completed.

- 4.3 We consider that a well-configured extension proposal taking consideration for the identified levels of bat use presents opportunity for ecological enhancement improvements to support locally valued species such as bats and others as described (reptiles, hedgehogs etc). Our advice is therefore to incorporate ecological input when drawing up this scheme with such possible measures adopted as the installation of bird nesting and bat roosting measures such as boxes at elevation on available trees and upon the structures to be constructed which will not only provide retention of the quality and connectivity of the site with nearby habitats but will also serve to potentially enhance the site's wildlife value. (See Appendix 3 for specific proposals). Generally, the avoidance of any mature tree-felling ought to be a prerequisite of planning consent. **We recommend** that any intervention, reduction, cutting back or removal of shrubs and above-ground vegetation, including hedges, avoids the spring-summer bird-breeding seasons and only follows further survey and consented approval.
- 4.4 Current planning policy requires that development projects minimise ecological damage and should contain elements of ecological enhancement. A variety of habitat creation options should be implemented at the site, including a consideration of incorporating a range of animal boxes on site as described along with vegetation options to the south. These are not currently statutory requirements but would be considered appropriate options for the site to offset any negative impacts of site disturbance and such **Biodiversity Net Gain** will soon be a requirement of such developments. We are available to offer further specific design advice, but standard hole-nesting bird boxes, "Green and Blue", "Greenwoods Ecohabitats Ecostycrete boxes", "Vivara pro", "Habibat" or "Schwegler "woodcrete" built-in bat boxes and tubes", and readily-available hedgehog refuge boxes are the principal recommendations.

4.5 ***Need for European Protected Species disturbance licence / further work required:*** In our considered opinion it is highly likely that protected (bat) species would be disturbed as a consequence of this demolition and rebuild proposal, and they would be directly affected by those proposals. Although we recommend a range of protective and precautionary measures such as supervised works and structural disturbance outside of the bird-breeding season (see Appendix 3), further surveys, now conducted in the appropriate season, have informed a suitable mitigation approach. For bats the approach of a bat activity survey suite was completed between May and August covering both dawn and dusk periods and employing static datalogging detectors. Given the identified use by several bats of three relatively common species (including a small maternity group of common pipistrelles) but at low numbers, a site European Protected Species Mitigation Licence is required (from Natural Resources Wales) to satisfy the legislative process. This can be achieved once planning consents are fully in place. As part of a prior consultative phase we will need to update this survey and recommendation report with site specific recommended measures and undertakings via fully annotated and scaled drawings.

## 5. Legislation

5.1 **Background:** This section briefly describes legal protection applying to species mentioned in this report. It does not comprehensively reflect the text of the legislation and it should not be relied upon in place of it.

5.2 **The need for a bat survey:** Some bat species in Britain are reported to be declining in numbers and distribution. There are 17-19 resident species in the country constituting over a third of all mammal species present. With habitat loss, fragmentation and degradation, building conversion, misuse of timber-treatment chemicals, increase in predators and direct persecution, the situation in some areas is serious. Several of the commoner bat species are reported to have declined in numbers by approximately half in recent years. Bats are therefore protected under national and international wildlife law, and owners, developers and planners have to take due notice of their protection within activities. There is no defence under law for a plea of ignorance even when carrying out otherwise lawful activities.

**Legislation:** All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 39 of the Conservation (Natural Habitats) Regulations 1994 and Section 9 of the Wildlife and Countryside Act 1981. Further enforcement has been provided by The Countryside and Rights of Way Act 2000. The Conservation of Habitats and Species Regulations 2010 updated the legislation. In exercising their decisions within the planning framework, local authorities are duty bound to take full account of the impact on biodiversity, including the wider biodiversity network and 'notable' species listed within Red Data Books, taxa-specific conservation lists and Schedule 41 of the Natural Environment and Rural Communities Act 2006.

It is illegal to:

- deliberately disturb bats (whether in a roost or not) in a way as to be likely to significantly affect the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or the local distribution of abundance of that species

- damage, destroy or obstruct access to bat roosts
- possess or transport a bat or any part of a bat, unless acquired legally and in possession of a licence to sell, barter or exchange bats, or parts of bats unless in possession of a licence to do so.

Within the Conservation of Habitats and Species Regulations the law has been made quite clear. Many formerly used defences can now no longer be used in disturbance situations. These include the commonly relied upon 'incidental result defence', which previously covered acts that were the incidental result of an otherwise lawful activity and which could not reasonably have been avoided.

There is, therefore, an obligation on those who seek to effect changes to buildings, structures, caves or trees, or carry out activities which might constitute a disturbance, where bats are present, thought to be present, or have the reasoned possibility of presence to seek specialist advice, and to ensure that appropriate systems are in place to avoid damage to bat roosts or their habitat.

As bats are protected by both national and European legislation, works under a planning permission that will cause disturbance to a bat or bat roost shall require a specific licence from Natural Resources Wales (NRW), (or the Wildlife Licensing Unit (W.L.U.) of Natural England (DEFRA)), and only after planning permission has been granted where this is required.

Conditions may be added to a licence or the granting of a licence may be refused. Under the Conservation of Habitats and Species Regulations NRW or the W.L.U. can issue licences for:

- preserving public health and safety or other imperative reasons of over-riding public interest including those of a social and economic nature and beneficial consequences of primary importance for the environment;
- preventing the spread of disease; preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries

NRW or the W.L.U. can only issue a licence if it is satisfied that the activity meets one of the above purposes and is also satisfied that there is no satisfactory alternative, and that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a **favourable conservation status** in their natural range.

Applications to apply for European Protected Species licence for bats consist of the following:-

- Application form – this provides detail on the applicant, project, the purpose of the work and consideration of alternatives.
- Method Statement – this provides detail on the methods to be used to carry out the work with regard to bats and will include a survey undertaken to determine the number of bats present.
- Detailed timetable of works, mitigation measures and all monitoring and possible modification works.
- Reasoned Statement of Application (for large scale projects) – this provides the reasons for the disturbance and gives evidence of the justification.

*(Within England, and for projects involving small numbers of the most commonly encountered bat species in licence situations and in roosting behaviour other than important maternity, mating or hibernation sites (amongst others), an approach of a Registered Consultant being employed to instruct works under the Bat Mitigation Class Licence / Bat Low Impact Class Licence (BMCL / BLICL) system may be appropriate with a lower burden of paperwork, compensation and monitoring.)*

5.3 **The need for a breeding bird survey:** The Wildlife and Countryside Act 1981 (WCA 1981) provides that all wild birds are protected and cannot be killed or taken except under licence. The Act also prohibits or controls certain methods of killing or taking except under licence. Certain exceptions to this general rule apply. However, with the exception of a certain few derogated pest or very common species, the legislation gives protection to all wild birds in Britain.

5.4 **Other species groups. The need for a badger survey. Legislation:** Badgers (*Meles meles*), and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal to kill, injure or take badgers or to interfere with a badger sett. Interference with a sett includes blocking tunnels or damaging setts in any way. This legislation has been amended as a result of the Hunting Act 2004.

5.5 ***The need for a great crested newt survey:*** Similarly protective legislation to that applying to all bat species pertains to other species such as great crested newts (*Triturus cristatus*). Great crested newts can exist across large tracts of land within metapopulations. The majority of newts will however be found within 250m of breeding ponds and more particularly within 50m. A range of approaches are applicable depending on the nature of any site use and which may include a Non-Licensed Reasonable Avoidance Measures policy (RAMS), licensing under the low impact approach, control within areas of district-based licensing, or a full EPSM Licence.

***Legislation:*** As with bats, crested newts are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 which implements the EC Directive 92/43/EEC in the United Kingdom and it is an offence, with certain exceptions, to:

- deliberately capture or kill any wild animal of a European protected species;
- deliberately disturb any such animal;
- deliberately take or destroy eggs of any such wild animal;
- damage or destroy a breeding site or resting place of such a wild animal;
- deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species;
- keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of a European protected species, or any part of, or anything derived from such a wild animal or plant.

- 5.6 **Reptiles and amphibians (other than great crested newts): Legislation:** The grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), viviparous (common) lizard (*Lacerta vivipara*) and adder (viper) (*Vipera berus*) are all protected from intentional or reckless killing and injury under Schedule 5, Section 9(1), of the Wildlife and Countryside Act as amended/reinforced by the CROW Act 2000. They are also protected under Schedule 5, Section 9(5) which prohibits selling, offering for sale, possessing or transporting for the purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from the species.
- 5.7 **The need for a barn owl survey: Legislation:** Barn owls (*Tyto alba*), are fully protected under Schedule 1 of the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000. As a consequence, and in addition to the general protection afforded to the majority of British wild birds, it is an offence to deliberately or recklessly disturb a nesting barn owl. Offences pertaining to Schedule 1 birds are subject to a special penalty. The barn owl is also listed in the EC Birds Directive and Appendix II of the Bern Convention. It is an 'Amber List' species of conservation concern (Gregory *et al.* 1996) and is listed as 'globally threatened' in the UK Biodiversity Steering Group Report (1995).
- 5.8 **The need for a water vole survey: Legislation:** The water vole used to be very common until the 1960s or early 1970s along the waterways of Britain. However, they have declined by almost 90% over the last thirty years, with many remnant populations being severely fragmented (Strachan & Moorhouse, 2006; see also [www.naturalengland.org.uk/ourwork/regulation/wildlife/species/watervoles.aspx](http://www.naturalengland.org.uk/ourwork/regulation/wildlife/species/watervoles.aspx)) as a result of which the species is afforded full protection in the UK under the Wildlife & Countryside Act in April 2008. They are also a UK BAP Priority Species. It is an offence, with certain exceptions, to:
- intentionally capture, kill or injure water voles
  - damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care)
  - disturb them in a place of shelter or protection (on purpose/ by not taking enough care)
  - possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity). If convicted of an offence there could be a committal to prison for up to 6 months and fines of £5,000 for each offence.

- 5.9 ***The need for a hazel dormouse survey: Legislation:*** Similarly protective legislation to that applying to all bat species pertains to other species such as hazel dormice (*Muscardinus avellanarius*). As with bats, hazel dormice are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 which implements the EC Directive 92/43/EEC in the United Kingdom and Section 9 of the **Wildlife and Countryside Act 1981**. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

## REFERENCES

BSI (2013). British Standard for Biodiversity: Code of Practice for Planning and Development. BSI 2013.

Chartered Institute of Ecology and Environmental Management (2006). Guidelines for Ecological Impact Assessment. IEEM. Accessed at:

<http://www.ieem.net/ecia/EcIA%20Approved%207%20July%2006.pdf>

Chartered Institute of Ecology and Environmental Management (2012). Guidelines for Preliminary Ecological Appraisal. IEEM. Accessed at: [http://www.ieem.net/docs/GPEA\\_web.pdf](http://www.ieem.net/docs/GPEA_web.pdf)

Communities and Local Government (2012). The National Planning Policy Framework. Accessed at: <http://www.communities.gov.uk/documents/planningandbuilding/pdf/2115939.pdf>

HMSO (1981). Wildlife and Countryside Act 1981 (as amended). HMSO

Hundt, L. (2012). Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust  
ISBN-13: 9781872745985

Joint Nature Conservation Committee (2010). Handbook for Phase 1 Habitat Survey: a technique for environmental audit. JNCC, Peterborough

Office for Public Sector Information (2006). The Natural Environment and Rural Communities Act 2006. Accessed at: [http://www.opsi.gov.uk/acts/acts2006/ukpga\\_20060016\\_en\\_1](http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1)

Shawyer (2011). Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting. IEEM Winchester.

Strachan, R., & Moorhouse, T. (2006). *Water vole conservation handbook Second Edition*. English Nature, Environment Agency and the Wildlife Conservation Research Unit: Oxford.

The Conservation of Habitats and Species Regulations 2010. Accessed at:

[http://www.opsi.gov.uk/si/si2010/uksi\\_20100490\\_en\\_1](http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1) United Kingdom Biodiversity Partnership

(2010). United Kingdom Biodiversity Action Plan.

Accessed at: <http://www.ukbap.org.uk>

# Appendix 1: Survey photographs – identified bat roosts 2023

(Please also see images on KG Ecology, Oct 2022)



Plate 1: View of the NW elevation of the house from the SW with identified soprano pipistrelle roost indicated behind fascia



Plate 2: Closer view of this solitary soprano pipistrelle bat roost



Plate 3: View of the S roof slope of the main (southern) part of the house showing location of solitary common pipistrelle bat roost at the ridge



Plate 4: Closer view of this feature



Plate 5: View of the S gable end of the small barn (kennels) showing the identified solitary soprano pipistrelle bat roost behind the metal fascia



Plate 6: View of southern elevation of the large barn showing the location of the identified maternity, colonial roost site for an observed ten common pipistrelle bats



Plate 7: Closer view of the roost location in an overlap of two fibre cement panels

## Appendix 2: Relevant aggregate bat data

**Table 1 : Bat species mentioned in text**

Myotis bat	<i>Myotis spp.</i>
Noctule bat	<i>Nyctalus noctula</i>
Common pipistrelle bat (45kHz)	<i>Pipipstrellus pipistrellus</i>
Soprano pipistrelle bat (55kHz)	<i>Pipistrellus pygmaeus</i>
Brown long-eared bat	<i>Plecotus auritus</i>

**Table 2 : The bat activity data**

24-5-23 Sunset 21.13	<p align="center"><b>Activity Survey 1</b></p> <p align="center"><b>Windspeed: very light breeze, Cloud cover: 1/8,</b></p> <p align="center"><b>Relative humidity: 58 - 86%,</b></p> <p align="center"><b>Temperature range 13.9 – 9.2°C</b></p> <p align="center"><b>Dry</b></p>
20.40	Onsite, position equipment and commence activity survey – perform fixed point and transect recording and utilise static recording devices as detailed
21.38	55 kHz Pipistrelle bat heard not seen to W of house/small barn – possible emergence; thence encountered from this survey point @ 21.41, 21.51 (two together), 22.13
21.51	45kHz pipistrelle bat identified to W of house/small barn – appeared from further W therefore likely not site emergence
21.55	45kHz pipistrelle bat identified to E of house – possible emergence; thence also from this survey purview @ 21.59, 22.09, 22.13, 22.15, 22.28

21.58	Steady stream of 45 kHz Pipistrelle bats identified commuting from the W to E along the road – assumed colonial roost site away to the W off site and not associated with the surveyed structures – at least 24 in number; thereafter sporadic encounters with both pipistrelle specie primarily along road and to the E of site structure
22.06	Long-eared bat identified W of site structures
22.11	Noctule bat identified high overhead
22.26	<i>Myotis</i> bat identified flying W to E along road; again @ 22.47
22.55	Terminate activity survey direct observation and depart site

<p><b>20-6-23</b> <b>Sunset</b> <b>21.37</b></p>	<p><b>Activity Survey 2</b> <b>Windspeed: still/almost still</b> <b>Relative humidity: 72 - ≥90%,</b> <b>Cloud cover: 0/8</b> <b>Temperature range 18.8 – 14.1°C</b> <b>Dry</b></p>
<p>21.15</p>	<p>Onsite, position equipment and commence activity survey – perform observation and recording, and utilise static recording devices as detailed</p>
<p>21.52</p>	<p>55 kHz Pipistrelle bat identified (heard not seen) to the NE of the house/site – possible emergence</p>
<p>22.14</p>	<p><i>Myotis</i> bat identified flying E along lane</p>
<p>22.15</p>	<p>55kHz pipistrelle bat likely emergence from NW gable end of house</p>
<p>22.17</p>	<p>45kHz pipistrelle bat observed to SE of house, near larger barn; thence both common and soprano pipistrelle bats identified foraging along the road – constant activity but declining after 23.05</p>
<p>22.46</p>	<p>Long-eared bat foraging around hedge to N of house</p>
<p>23.02</p>	<p>Noctule bat identified high overhead from W surveyor position</p>
<p>23.25</p>	<p>Terminate activity survey direct observation, collect equipment, depart site</p>

<p><b>24-8-23</b> <b>Sunrise</b> <b>06.11</b></p>	<p><b>Activity Survey 3</b> <b>Windspeed: steady breeze</b> <b>Relative humidity: 59 - 66%,</b> <b>Temperature range 17.6 – 15.9°C</b> <b>Dry</b></p>
<p>04.20</p>	<p>Onsite, position equipment and commence activity survey recording and utilising static recording and thermal imaging devices as detailed</p>
<p>From start</p>	<p>Contact with 45 &amp; 55kHz Pipistrelle bats along the road, also to W surveyor purview - until much quieter site by 05.24</p>
<p>05.14</p>	<p><i>Myotis</i> bat identified to W of buildings heading W</p>
<p>From 05.24</p>	<p>45 kHz Pipistrelle bat activity concentrated to the S of the House and E of the large barn; “swarming” activity observed with some social calling – a minimum of ten bats directly observed returning to roost on the S elevation of the large barn as identified (between overlap of two vertical cement sheets); last one entered roost @ 05.51</p>
<p>05.28</p>	<p>Long-eared bat identified near to the house roof and entering ridge on the N-S roof line, approximately central</p>
<p>05.32</p>	<p>45kHz pipistrelle bat observed entering site from the E and going to roost on the S ridge of the house towards the chimney breast</p>
<p>05.53</p>	<p>Noctule bat identified overhead from all surveyor locations</p>
<p>05.54</p>	<p>55kHz pipistrelle bat observed entering site from the road and going to roost on the SW gable end of the small barn beneath the metal fascia</p>
<p>05.56</p>	<p>55kHz pipistrelle bat observed entering site from the road and going to roost on the NW gable end of the house beneath the timber fascia</p>
<p>06.25</p>	<p>Terminate activity survey direct observation retrieve all devices and exit site</p>

<p><b>Conclusions</b></p>	<ol style="list-style-type: none"> <li>1. <b>Roost by day, in the current year, of at least one common pipistrelle bat on the S roof ridge of the house; also one soprano pipistrelle bat on the S fascia of the small barn; also one further soprano pipistrelle bat on the NW gable end fascia of the house; also a solitary long-eared bat on the N-S roof ridge of the house; also a colonial, likely maternity roost of common pipistrelle bats of at least ten in the current year on the S elevation of the large barn</b></li> <li>2. <b>The accumulated data from the deployed dataloggers confirmed only the species identified by the surveyors and no further notable early or late records which might be associated with roost emergence or return to any parts of the house.</b></li> <li>3. <b>The nature and importance of the mature roadside vegetation and the generally unlit nature of the site for bats of a small range of species, including an important breeding use has been confirmed.</b></li> <li>4. <b>The fascias and roof ridge accessibility on the roofs of the house and small barn, as well as the identified panel overlap roost on the large barn are of primary important determinant features for the use of the location by bats. These will need to be recreated as closely as possible for the bats to be able to continue to roost at this location.</b></li> </ol>
---------------------------	---

## Appendix 3: Implications of Survey Findings & Considerations for Proposals, Mitigation and Method Statement Recommendations

1. At least three species of bat, including a small breeding colony, are now known to be using the structure of the house, small barn and large barn. In excess of eleven common pipistrelle bats in two locations), two soprano pipistrelle bats in two locations and one long-eared bat in another roost location, are using the site to roost in during the day. It cannot be ruled out, and indeed it is likely that other bat roost locations are present on these buildings and that a seasonally-variable use of locations on the buildings takes place. Therefore, any change of use, disturbance or obstruction to these identified structures must be considered as a significant one. Given the nature of the use of the house and barn structures identified, we consider the likelihood of encountering bats during the proposed and indeed any building work or disturbance factors to be high. Therefore, following satisfaction of the planning process, consideration will need to be given to the site proposals, and any disturbance will have to follow a fully-approved mitigation licence from the government (Natural Resources Wales). The perpetuation of the bats' use of the property will need to avoid disturbance to the identified roosts, or have licensed timely disturbance, retention or a recreation of roosting features on new structures.
2. Additionally, bats and some other protected species, (for example hedgehogs), can be cryptic and mobile species. Thus, any associated groundworks must also be considered with due care. However, we feel it entirely possible given the range of proposed structures at the location, within the currently somewhat limited amount of knowledge, to not only retain but to enhance the ecological functionality of this site and its proven bat utilization within a detailed and carefully compiled methodology of work. Further advice will need to be provided if any vegetation management or landscaping plans are to involve semi-natural habitats and vegetation beyond the immediate curtilage of the house and to including proposed hedgerow works.
3. Consequently, with regard to the often transitory and quickly changing nature of bats' use of buildings and due to the extent of any possible work at the location, we feel it appropriate and proportional to proceed in the way set out here; that is, with caution and awareness after the survey completion. **No work to the site structures should proceed without full licensed**

**permission** for that work from the appropriate licensing body being in place. Once obtained, and working with an appointed Ecological Clerk of Works and a consent to this Method Statement (MS) within the appendix and the MS, these should be made available to all workers onsite and constitute a “tool box” briefing at the start of their involvement with the project and following a further update search by the ecologist with the awareness of the ever-present possibility of the presence of bats (or birds) in occupation. The named foreman or project manager will then be responsible going forward for adherence to all relevant protected species legislation. The best time of year for any such suitably licensed work would be post summer use aiming to complete before the spring of the following year.

4. Generally, and as stated in the main body of the survey report:- A strong precautionary approach should generally be followed to any appropriately licensed building maintenance or repairs, and any stripping operations or demolition especially. At that time should any bats be discovered during works (or suspicion arise about the possible presence of bats, for instance in a crevice, behind a cavity or timber boarding, beneath roof slope or hanging tiles, or within stonework etc), that work must cease immediately, and the licensed consultant employed to establish bat presence or otherwise. The situation would then be assessed in the light of that evidence. It should be noted that any work schedule may well be affected should bats be discovered but to continue would constitute a breach of the legislation and a possible prosecutable offence. It is important to note that certain bat species do not occupy the internal volume of roofs and can often be supported between, for example, lining and the roof covering of buildings or, for example, beneath roof components including felt, flashing and fascia panels, in walls and soffits, even close to the ground etc or along wall tops.
5. Bats in the UK, when encountered in structures, are not huge things like fruit bats hanging from beams, rather they are very small (generally smaller by far than a man’s thumb), somewhat brownish in colour and often tucked away in tiny niches and crevices. You must look very carefully when lifting tiles, slates, flashing, exposing roof components etc. They are very fragile creatures and also known to potentially carry a range of diseases and should therefore not be handled with bare hands by anyone other than authorised and suitably prepared personnel. This must be pointed out at the start of the project.

## **Summary for any structural or other disturbance works to the property**

6. A search of records held by the county biological records centre is **now recommended** and will be required as a condition of the licensing process.
7. Continue to engage the services of an ecological consultant to inform and collaborate on a suitable mitigation and compensation scheme and the specific details which that will require, thence supervise the methodology of specific works proposed, and to within licensed permission once granted, as that is deemed necessary.
8. Thence make this appendix and the developed Method Statement for works available to all site workers and this to be the responsibility of the appointed Ecological Clerk of Works, the foreman or project / site manager.
9. Subsequently, and at any time during the disturbance, if bats (or breeding birds) are encountered or a suspicion about their presence or a roost being discovered then:-
10. **Work must stop immediately. Do not disturb any bats seen to be tucked away or hanging from parts of the structure.**
11. If discovery is the result of moving something within the buildings and a niche-using bat is uncovered, carefully replace the component which removal led to the revealment, and gently cover the bat unless it has already flown (a soft cloth can be used).
12. **Do not handle any bat unless absolutely necessary** to avoid it being harmed. In that event handle only with gloves and place somewhere safe, in the dark and where undisturbed.
13. Call Stephen immediately, if not present onsite, in any case on 07767 853495, or Natural Resources Wales. Similarly, call should any other species be observed (reptile, amphibian, nesting bird etc).

14. Do not continue until full consultation has taken place. It could be a prosecutable offence to continue without the further consultation.
15. Once licensed consent is gained, the ECoW must be present on site as any part of any roof or walls, timbers etc are impacted or exposed by works there to search for the presence of bats. If any are discovered, then works must cease in the first instance to enable the ECoW to provide a resolution in accord with the relevant legislation and consents. This will be the safe translocation, via an approved handling box, to a previously installed receptor box on a nearby tree or “safe” location.
16. We recommend that if any new roofs are proposed where bats might come into contact with them, they utilise woven bitumen felt underlay (F1) and avoid any semi-permeable membranes known to entrap and kill bats. (There is one semi-permeable material that is currently permitted (and only in England) for use where bats might come into contact though it will need to be of the specific licensed type with certificated snagging propensity test results).
17. Important note: If there is an owners’ desire to carry out any repair or modification work likely to cause disturbance to bats, their identified roosts or their access to them, then full legal consent must be obtained prior to that work regardless of any other permission such as planning consent being acquired.
18. **Lighting.** This is considered important at this rural location. We recommend no additional exterior floodlighting, high level or high-power night lighting, within the vicinity of the identified bat habitats, and around the buildings or roost replacement features once installed particularly to the upper levels and roofs of buildings.

## **Biodiversity compensation and improvement**

19. For the new set-up proposed (works to demolish and replace with a new house and farm buildings) we recommend the creation of access for the smaller “crawling” bat species via new roof ridge and roof slope access created in at least eight locations via 100 x 25mm access tiles/slates and niches. Additionally, a range of built-in roost boxes or “bat tubes” should be an important part of the suite of features to attract bats to continue to roost at Crossways Farm.
20. In the meantime, where any ongoing roof or structural repairs are intended, such as the replacement of slipped, cracked, missing tiles etc then we strongly recommend an informed and supervised approach and that replacement is made with proprietary bat tiles to avoid the loss of any roosts and an inadvertent transgression against protected species legislation.
21. For general biodiversity improvement we further recommend sparrow terrace boxes, internal barn swallow nest ledges, and house martin nest forms (as supplied by, for instance, NHBS, with “woodcrete” materials preferred), be erected in suitable positions. With scrutiny of more detailed site plans we perceive the opportunity to develop additional specific advice for areas suitable for small mammals, invertebrates and birds etc, particularly to the sheltered, though uncluttered, aspects of the buildings.
22. For reptiles:- a series of artificial refugia (mats) should be placed prior to and around the area of the proposed disturbance (immediately near to the buildings and development footprint). These should be checked by the consultant ecologist for a period prior to work commencement and continue through the disturbance phase. Any common reptile or amphibian species if encountered would be safely caught and translocated by the consultant ecologist as appointed to a safe receptor area of the further pastures and field hedge boundary bases.
23. Subsequently, and at any time during disturbance works, if any protected species (including breeding birds, mammals, reptiles including slowworms, amphibians etc) are encountered or a suspicion about their presence or a resting place being discovered then work must stop immediately and further advice be sought.



**europaeus land management services (ecology)**

**Director: Stephen P.B. West MSc MCIEEM PrCMA**

**01568 611736**

**Sub offices: Herefordshire, Cheshire, Oxfordshire**

**Office email: *ecology.susan@hotmail.co.uk***