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Barn 1



Barn 2

The Barns  
Rhyd-y-carw Mill  
Trefeglwys  
Powys  
SY17 5PU  
Ecological Survey

August 2020

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## TABLE OF CONTENTS

|  |    |
|--|----|
| 1. Executive Summary .....               | 3  |
| 2. Background.....                       | 3  |
| 3. Constraints.....                      | 3  |
| 4. Site Description.....                 | 4  |
| 5. Survey Methodology & Personnel.....   | 8  |
| 6. Survey – Daytime.....                 | 9  |
| 7. Survey – Evening & Dawn.....          | 10 |
| 8. Ecology of British Bats.....          | 16 |
| 9. Relevant Legislation Bats .....       | 17 |
| 10. Barn Owls & Nesting Birds.....       | 18 |
| 11. Habitat Assessment .....             | 18 |
| 12. Mitigation .....                     | 19 |
| 12.1 Specific Bat Provision              |    |
| 12.2 Lighting                            |    |
| 12.3 Materials & Treatments              |    |
| 12.4 Timing                              |    |
| 13. Conclusion.....                      | 23 |
| 14. Photographs .....                    | 24 |
| 15. Bat Guidelines and Legislation ..... | 28 |

## 1. Executive Summary

- 1.1 A protected species survey was carried out on 2 barns at Rhyd y carw Mill, in June, July & August 2020. These surveys included daytime investigation, 4 evening emergence surveys and 2 dawn re-entry surveys.
- 1.2 The survey did not reveal any bats emerging/accessing Barn 1; however approximately 3 Common Pipistrelle bats (*Pipistrellus pipistrellus*) & 1 Soprano Pipistrelle bat (*Pipistrellus pygmaeus*) were observed emerging/accessing Barn 2 during the survey periods.
- 1.3 Recommendations are made with respect to timing/method of works on the barns in order to minimise damage/disturbance of any bats/birds found on site and mitigation in order to preserve/enhance the roosting opportunities for bats in the area.

## 2. Background

- 2.1 Rhyd y carw Mill is located at Grid Ref: SN 958906 approximately 1km west of the village of Trefeglwys, Powys. The two buildings surveyed are Barn 1 which is currently used as kennelling & Barn 2 which is a redundant barn. The property is accessed off a private track, off an unclassified road, U2573 Trefeglwys – Llawr-y-glyn, this off the B4569 Caersws – Llanidloes road (see map & aerial views).
- 2.2 The site is within an upland rural position surrounded by semi improved undulating pastureland grazed by sheep. The Old Mill house is situated to the east of the buildings, with mature native hedgerows around the fields and along lanes and many areas of mature broadleaved tree lines.
- 2.4 Prior to applying for planning consent, the property owner, Mr Robin Breese-Davies, commissioned a bat survey to determine if the work would have an impact on these protected species. The Jon Sloan Ecological Consultancy was engaged to undertake the survey and produce a report with appropriate mitigation recommendations. This report, therefore, encompasses details of the survey work undertaken.

## 3. Constraints

- 3.1 There were few constraints to the undertaking of the site survey. The property was easily located, and the surveyors were given complete freedom of access to all parts of the buildings and exteriors. The tenant of the Old Mill house who keeps several dogs kennelled in Barn 1 removed the dogs during the surveys.

- 3.2 Inspections were undertaken with the aid of 1.5 million candlepower lamps fitted with infra-red filters, a surveyor's ladder, endoscopes, binoculars & cameras.
- 3.3 Weather conditions on the day of the initial survey were dry with some high cloud. There were no limitations on visibility.

#### 4. Site Description

- 4.1 The site is within an upland rural position surrounded by semi improved undulating pastureland grazed by sheep, with mature native hedgerows around the fields and along lanes with many areas of mature broadleaved tree lines in particular along the banks of the Afon Trannon directly to the south. The Old Mill house is situated directly to the east of Barn 1 with Barn 2 within the field to the west of Barn 1.
- 4.2 There were 2 barns surveyed on the site. Barn 1, immediately to the west of the Old Mill house, is a single-storey brick built barn with a natural slate roof. A block built extension is attached to the southern aspect with the upper western & southern elevations weatherproofed with vertical wooden boarding and the single pitch roof clad in tin sheeting. There is also a tin sheeted, open lean-to building abutting the eastern elevation. Barn 1 is within the yard of the property and has concrete floors to all interiors & is surrounded by hard-standing. The whole of this barn is currently used as kennelling for several dogs by the tenant of the Old Mill house & is cleaned/power hosed down daily. Barn 2 lies to the west of this barn within an adjacent field.
- 4.3 Barn 2 is a single storey, open fronted, former sheep shed built on a stone plinth, this supporting an oak timber framed construction with the elevations & roof weatherproofed in corrugated tin sheeting & an earth floor. Barn 2 is situated in an elevated location within pastureland to the west of Barn 1 & the Old Mill house.
- 4.4 **Barn 1**- the structure of this barn is in good condition, however there are several areas of potential for bats to access/roost, i.e. missing/displaced roof slates, gaps at intersection of rafters/wallplates, gaps under ridge tiles, open doorways, gaps in vertical wooden boarding on block-work extension & gaps under slates to gable end verges/bargeboards (see photographs "Areas of potential for bats – Barn 1"). All brickwork was well pointed/sound with no crevices & the timber work is a softwood construction with no open mortise/tenon joints.
- 4.5 **Barn 2** – the structure of this barn is in a very poor condition & close to collapse with many areas of potential for bats to access/roost i.e. missing/displaced tin sheeting to

all elevations, under ridge capping, open frontage & open mortise/tenon joints in oak timberwork. Many of the oak timbers were rotting due to the ingress of rainwater (see photographs “Areas of potential for bats – Barn 2”).

- 4.6 The site has mature native hedgerows surrounding fields and lanes and several mature tree lines to most aspects, in particular along the banks of the Afon Trannon to the south, all of which offer good linear features & foraging areas for bats.

### Areas of potential for Bats – Barn 1



Open windows/doorways, missing slates, under ridge

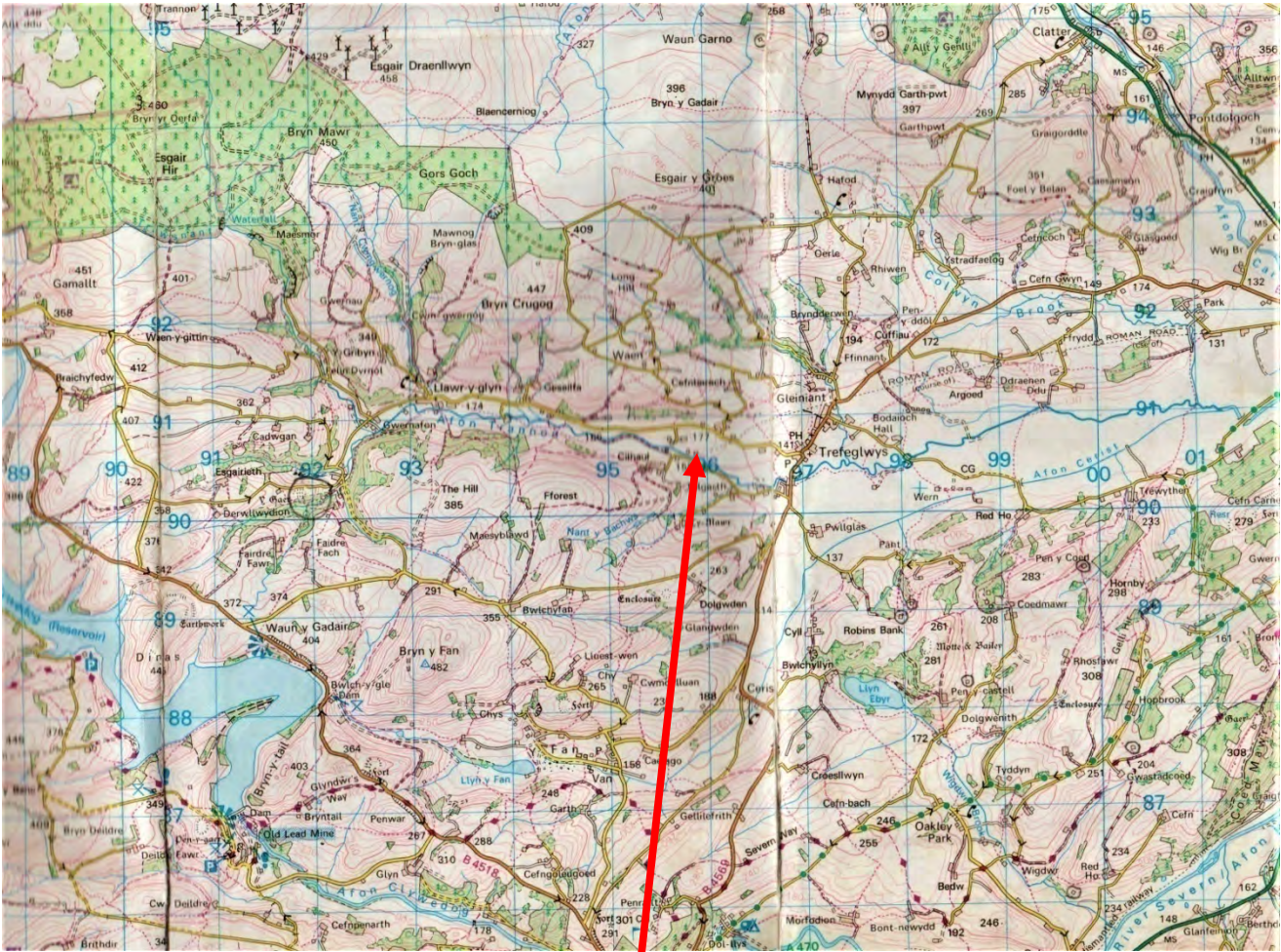
Vertical timber boarding

### Areas of potential for Bats – Barn 2



Missing/displaced tin sheeting, open front, ridge capping

Open mortise/tenon joints



Position of Rhyd y carw Mill

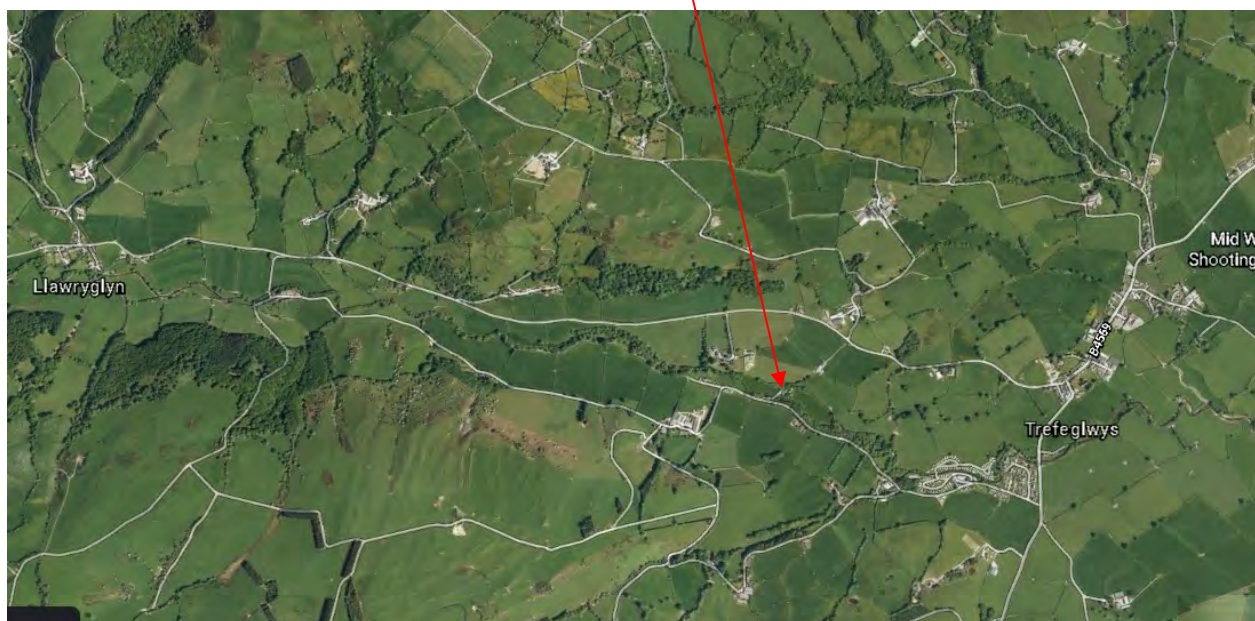
## Aerial Views



Barn 2

Barn 1

### Position of Rhyd y carw Mill



## 5. Survey Methodology & Personnel

- 5.1 The surveyors first examined the outside of the buildings. The purpose of these searches was to locate any possible bat access/egress points and to note any bat droppings (faeces), or staining caused by urine or fur oil, where repeated access was taking place.
- 5.2 Following the external inspections, the interiors were inspected. All areas were inspected thoroughly, noting any evidence of roosting or night perch use by bats. Such use was expected to be demonstrated by the presence of bat droppings, actual bats and/or discarded insect remains (i.e. insect wings or legs). 1.5 million candle power lamps and endoscopes were used to assist in these searches.
- 5.3 Equipment used for surveys: ladders, mirrors, 1.5 million candle power lamps (with infra-red attachment), heterodyne bat detectors, Anabat SD1 bat detectors, endoscopes, night vision scopes, camera & binoculars.
- 5.4 Personnel carrying out the surveys were:

### **Jonathan Sloan** – Ecological Consultant

- NRW bat licence: S087730-1
- NRW barn owl licence: S087639-1
- BTO Ringing Permit with a training endorsement
- NRW Great Crested Newt licence: S087152-1
- BCT qualified “Surveying Barns, Buildings, Bridges, Trees & Bat Identification.
- Founder of Species Habitat Protection Group Powys (this is a charity dedicated to preserving habitats for wildlife \_ Charity No:1129929). The Group staged “Llandinam Lives” which included presentations & walks for bats, barn owls, otters, badgers etc. in which the general public were given the opportunity to learn about survey methods in the field encompassing bat detectors, Anabat detection with a SD1 detector and downloading data onto computer for analysis. Recently the group were awarded winners of the WCVA Third Sector Environmental award. Jon has worked tirelessly over the past 24+ years striving to maintain bat/barn owl habitats. He is a member of Montgomeryshire Bat Group & BTO & liaises closely with NRW (CCW), SNPA& BBNPA. Jon has also worked in the building & restoration/renovation business for over 34 years and has devised and implemented appropriate mitigation into many developments. Jon also has several years experience with undertaking Phase 1 surveys both within Wales & England.



**Janet Jones** - Licensed Ecologist

- Accredited agent on above bat and great Crested Newt licence
- NRW barn owl licence: S088313-1
- BCT qualified “Bat identification”
- Many years experience in the field of both bats & Barn owls.
- Co-founder & chairman of the Species Habitat Protection Group Powys.
- Member of Montgomeryshire Bat Group.
- Past experience of undertaking Phase 1 surveys in Wales & England.

## 6. Survey – Daytime

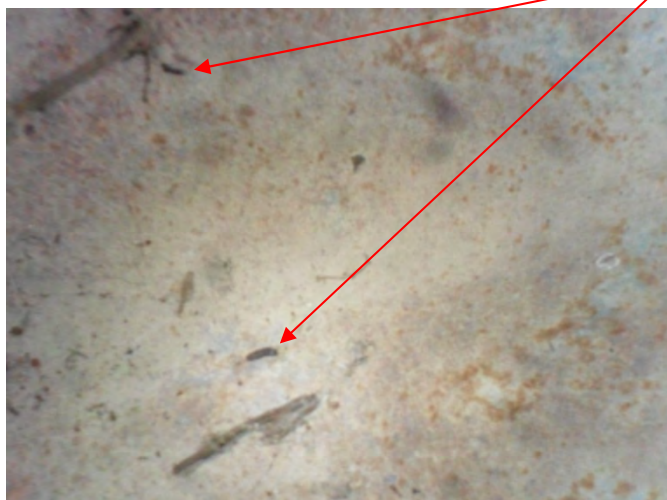
6.1 The initial survey was carried out on Saturday 13<sup>th</sup> June 2020. The survey was carried out as described above. The surveyors noted several locations where bats may gain access to the barns i.e. Barn 1 - missing/displaced roof slates, gaps at intersection of rafters/wallplates, gaps under ridge tiles, open doorways, gaps in vertical wooden boarding on block-work extension & gaps under slates to gable end verges/bargeboards & on Barn 2 - missing/displaced tin sheeting to all elevations, under ridge capping, open frontage & open mortise/tenon joints in oak timberwork (see photographs “Areas of potential for bats – Barn 1” & “Areas of potential for bats – Barn 2”). There are several areas of ideal foraging and flight lines for bats surrounding the property, i.e. hedgerows along lanes & fields, tree lines along river bank & areas of woodland.

6.2 The interiors of the barns were inspected thoroughly, where possible, with the aid of 1.5 million candle power lamps & endoscopes.

**Barn 1** - on inspection there were no clear areas to the ridge beam these being cobwebby throughout the length of the building. There was no under-slating felt i.e. the underside of the slates being visible from the ground. This barn is power washed every day given it is used constantly as kennelling for at least 10 dogs. No evidence of any bats or roosts was noted in any areas, i.e. no bat droppings, fur oil staining, feeding remains or actual bats.

**Barn 2** – there are several open mortise/tenon joints within the timber structure of this barn, some of which were clear. On inspection with endoscopes no evidence of bats roosting within these joints was noted at this time; however 2 bat droppings were observed on sheeting beneath one of the joints within the barn. The floors were covered in current & historical animal detritus therefore locating further droppings was difficult.

### Examples of bat droppings & clear joints



### Examples of clear joints

## 7. Survey – Evening & Dawn

7.1 Two surveys for observation of any evening emergence were made on each barn; these were undertaken on the evenings of Saturday 13<sup>th</sup> June 2020, Sunday 14<sup>th</sup> June 2020, Friday 10<sup>th</sup> July 2020, and Wednesday 15<sup>th</sup> July 2020.

The weather on the first evening (13/6/20) was dry, partly overcast with increasing cloud. The temperature was 19°C at 21.20hrs dropping to 14.7°C by 23.00hrs sunset was at 21.38hrs.

The weather on the second evening (14/6/20) was dry & still with high cloud increasing. The temperature was 17.9°C at 21.20hrs dropping to 11.2°C by 23.00hrs, sunset was at 21.38hrs.

The weather on the third evening (10/7/20) was dry & mostly clear. The temperature was 13.4°C at 21.15hrs dropping to 8.3°C by 23.05hrs, sunset was at 21.34hrs.

The weather on the fourth evening (15/7/20) was damp & overcast. The temperature was 16.7°C at 21.10hrs dropping to 14°C by 23.00hrs, sunset was at 21:29hrs.

- 7.2 A dawn re-entry survey was undertaken on both barns, on Sunday 2<sup>nd</sup> August 2020 & Monday 3<sup>rd</sup> August 2020.  
The survey on 2/8/20 took place from 04.05hrs to 05.40hrs the weather was overcast with occasional fine drizzle. The temperature was 13.8°C at 04.05hrs dropping to 12.9°C at 05:40hrs, sunrise was at 05.36hrs.  
The 2<sup>nd</sup> dawn survey on 3/8/20 was undertaken between 04.05hrs to 05.40hrs the weather was dry, still & mainly clear with cloud increasing from the west. There was a temperature of 9.3°C at 04.05hrs dropping to 8.4°C at 05:20hrs (sunrise was at 05.38hrs). There was insect life present during all survey periods.
- 7.3 To assist in both the evening and dawn surveys heterodyne bat detectors were used, to ensure full coverage of all frequencies used by British bats, also night vision scopes. All areas of the barns were covered during the surveys, Anabat SD1 detectors were used both inside & outside all aspects of the barns throughout the surveys.
- 7.4 **Barn 1**  
**14.6.20** – on the 1<sup>st</sup> evening emergence survey from approximately 21.55hrs 1-2 Common Pipistrelle bats (*Pipistrellus pipistrellus*) were detected/observed foraging around the site, in particular the trees to the south-east. 1-2 Soprano Pipistrelle bats (*Pipistrellus pygmaeus*) bats were also detected/observed foraging around the site from approximately 22.05hrs. An occasional pass of a Noctule bat (*Nyctalus noctula*) was also detected during the survey. At 21:36hrs a Wren (*Troglodytes troglodytes*) was observed accessing beneath the ridge at the northern aspect of the western elevation (see photograph Wren access point). No bats were observed emerging or accessing the building during this survey period. This survey commenced at 21.20hrs and ended at 23.00hrs, sunset was at 21.38hrs.
- 15.7.20** – on the 2<sup>nd</sup> evening emergence survey from approximately 21.45hrs 2-3 Common Pipistrelle bats commuted into the area & continued to forage around the trees to the south-east of the barn & flying between the trees & the river corridor to the south throughout the survey. An occasional pass of a Soprano Pipistrelle & Noctule bat was also detected during the survey. No bats were observed accessing/emerging the barn during this survey which commenced at 21.10hrs & concluded at 23.00hrs, sunset was at 21.29hrs. The dogs remained in the barn for the greater part of this survey only being removed on the owners' return at approximately 22.00hrs.
- 2.8.20** – during the dawn re-entry survey from approximately 04.50hrs until 05.25hrs 1-2 Common Pipistrelle bats were observed/detected foraging around the trees to the south-east of the barn & flying from north – east over the roof of the barn. No bats were observed accessing/emerging from the barn during this survey which commenced at 04.05hrs & concluded at 05.40hrs, sunrise was at 05.36hrs.

## 7.5 **Barn 2**

**13.6.20** – during the 1<sup>st</sup> evening emergence survey at 21.28hrs a Common Pipistrelle bat was observed emerging from the area of the missing boarding on the western gable apex of the barn & a second Common Pipistrelle bat emerged from the open frontage on the southern elevation at the same time. At 21.43hrs a third Common Pipistrelle bat accessed the open frontage on the southern elevation & emerged from the open doorway in the western gable at 21.46hrs. These bats continued to forage along the hedgerow/tree line to the north of the barn & over the roof from the direction of the river corridor to the south of the barn. An occasional pass of a Noctule bat was also detected high above the hedgerow. No further bats were observed/detected during this survey. A Tawny Owl (*Strix aluco*) was observed at 22.22hrs landing on the roof at the eastern gable before flying off towards the east. This survey commenced at 21.20hrs and ended at 23.00hrs, sunset was at 21.38hrs.

**10.7.20** – during the 2<sup>nd</sup> evening emergence survey from approximately 21.40hrs an occasional pass of a Common Pipistrelle bat was detected flying east to west along the hedgerow to the north of the barn. From 21.55hrs 1-2 Soprano Pipistrelle bats were also detected/observed foraging up & down this hedgerow. At 22.22hrs a Soprano Pipistrelle bat emerged from the open doorway in the western gable. An occasional Noctule bat was also observed/detected flying high above the tree canopy. No further bats emerged from the barn during this survey which commenced at 21.15hrs & concluded at 23.05hrs, sunset was at 21.34hrs.

**3.8.20** – during the dawn re-entry survey an occasional pass of a Soprano Pipistrelle bat was detected flying along the hedgerow to the north of the barn. At 05.22hrs a Soprano Pipistrelle bat accessed a crevice at the intersection of the bargeboard with the tin sheeting at the northern aspect of the eastern gable. No further bats were observed accessing the barn during this survey which commenced at 04.05hrs & concluded at 05.40hrs, sunrise was at 05.38hrs.

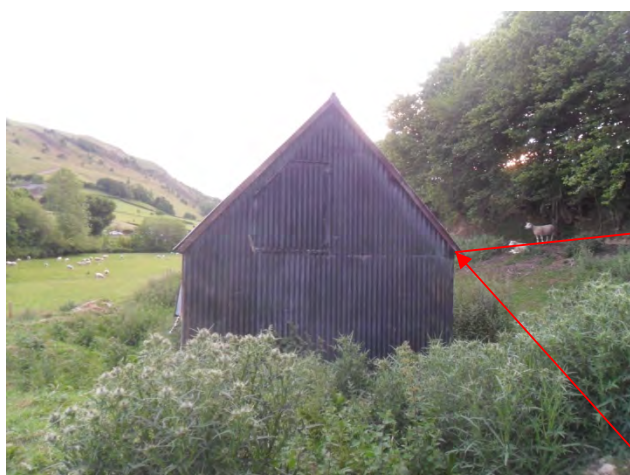
## Bat emergence / access points Barn 2



Southern elevation



Western gable



Eastern gable



7.6 The Anabat SD1 detectors positioned inside Barn 1 recorded the following data:

**14/6/20 - Dusk**

- Common Pipistrelle - (*Pipistrellus pipistrellus*) - 6 very brief, faint passes 22.12hrs - 22.46hrs (consistent with outside activity).

**15/7/20 - Dusk** – no data recorded

**2/8/20 - Dawn** – no data recorded

7.7 The Anabat SD1 detectors positioned outside Barn 1 recorded the following data:

### **14/6/20 - Dusk**

#### **North-east**

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 3 passes - 21:59hrs; 73 passes (some with feeding buzz & social calls) - 22:00hrs – 22:47hrs
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 28 passes (some with feeding buzz & social calls) - 22:07 – 22:43hrs
- Noctule (*Nyctalus noctula*) - 2 passes – 22:47hrs

#### **South-west**

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 3 passes – 21:57hrs – 21:59hrs; 32 passes (some with feeding buzzes) - 22:02hrs – 22:48hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 14 passes - 22:16 – 22.44hrs.
- Noctule (*Nyctalus noctula*) – 3 passes 22.06 – 22.48hrs.

### **15/7/20 – Dusk**

#### **North-east**

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 12 passes - 21.47 – 21.59hrs; 65 passes 22:00 – 22:48hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) – 6 passes 21.51 – 21.59hrs; 18 passes 22.01 - 22:57hrs.
- Noctule (*Nyctalus noctula*) - 2 passes – 22:09 – 22.45hrs.

#### **South-west**

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 6 passes – 21.55 – 21.59hrs; 36 passes 22:00 – 22:50hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 4 passes – 21.57 – 21.59hrs; 35 passes – 22.00 – 22.21hrs.
- Noctule (*Nyctalus noctula*) - 1 pass – 21.59hrs; 7 passes – 22.05 – 22.42hrs.

### **2/8/20 - Dawn**

#### **North-east**

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 13 passes - 04:51 - 04:59hrs; 72 passes (most with feeding buzz) 05.00 – 05.24hrs.

#### **South-west**

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) – 2 passes – 04:48hrs.
- Common Pipistrelle (*Pipistrellus pipistrellus*) - 6 passes - 05.08 - 05:22hrs.

7.8 The Anabat SD1 detectors positioned inside Barn 2 recorded the following data:

**13/6/20 - Dusk**

- Soprano Pipistrelle (*pipistrellus pygmaeus*) – 6 passes 21.19 – 21.47hrs; 1 pass 22.07hrs.
- Common Pipistrelle (*Pipistrellus pipistrellus*) - 11 passes- 21:26 – 21.56hrs; 5 passes 22.12 – 22.33hrs.
- Noctule (*Nyctalus noctula*) - 4 very faint/brief passes - 21.37 – 21.58hrs; 2 passes 22:02 – 22:13hrs.

**10/7/20 - Dusk**

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - - 2 passes – 21:53hrs; 3 passes - 22:18 – 22.29hrs (all faint/brief).
- Noctule - (*Nyctalus noctula*) - 3 faint/brief passes - 22 07 – 22.12hrs.

**3/8/20 - Dawn**

- Myotis - (*Myotis spp.*) - 1 brief pass - 04:40hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) – 1 pass 05.02hrs.

7.9 The Anabat SD1 detectors positioned outside Barn 2 recorded the following data:

**13/6/20 - Dusk**

**South-west**

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 7 passes - 21:29 - 21:52hrs; 10 passes - 22:14 – 22:36hrs.
- Noctule (*Nyctalus noctula*) – 4 passes 21.39 – 21.58hrs; 7 passes 22.01 – 22.44hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 2 very brief passes 21.43 – 21.46hrs; 5 passes 22.06 - 22:45hrs.

**North-east**

- Noctule (*Nyctalus noctula*) – 10 passes 21.26 – 21.59hrs; 8 passes 22.01 – 22.42hrs.
- Common Pipistrelle (*Pipistrellus pipistrellus*) - 1 pass - 21:58hrs; 17 passes - 22.12 – 22.49hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 1 pass - 21.57hrs; 7 passes 22.01 – 22.26hrs.
- Myotis (*Myotis spp.*) – 1 pass 22.06hrs.

## 10/7/20 – Dusk

### South-west

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 5 passes - 22:08 - 22:42hrs.
- Noctule (*Nyctalus noctula*) - 5 passes - 22:09 – 22:15hrs.

### North-east

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 2 passes - 21:40 – 21:55hrs; 8 passes – 22:08 – 22:40hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 7 passes - 21:54 – 21:59hrs; 21 passes - 22:01 – 22:56hrs.
- Noctule (*Nyctalus noctula*) - 5 passes - 22:03 – 22:13hrs

## 3/8/20 - Dawn

### South-west

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 1 pass - 04.51hrs; 2 passes – 05:07 – 05:27hrs.

### North-east

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 5 passes – 04:26 – 04:59hrs; 18 passes 05:00 – 05:24hrs.

## 8. Ecology of British Bats

- 8.1 There are at least 17 species of bats breeding in the United Kingdom, and based on current information at least 13 species may be present in the Powys County Council areas. Most of them are regarded as threatened due to a variety of factors including habitat loss and disturbance/damage to roosts, of these species a number regularly use barns and buildings at certain times of the year in order to find safe secure roost sites.
- 8.2 Bats are highly mobile flying mammals, which in the United Kingdom, feed entirely on insects. Having evolved over 70 million years, they have developed sophisticated mechanisms to allow them to effectively “see” in the dark by using sound. Called echolocation, this system allows them to track and hunt down small moving insects whilst in flight, rather like radar does in a modern military fighter aircraft.
- 8.3 In winter, when their prey is scarce, British bats hibernate in cool parts of caves, buildings and tree cavities. They may wake occasionally and will feed if evening temperatures are greater than 7 degrees C, when flying insects will be active. Generally however, activity in winter is very limited and bats only become fully active



in spring.

- 8.4 In late spring, female bats will gather together in maternity roosts in order to give birth and rear their single baby in June. Such maternity roosts are often near to foraging areas in order to minimise energy usage, as flight requires vast energy resources.
- 8.5 Whilst females form maternity colonies, usually in warmer roofs or trees, male bats tend to seek out cooler sites, which may not be so close to the foraging areas. Males are often solitary and do not exhibit the social behaviour that marks out females during the birthing period.
- 8.6 Several British bat species are known to rely heavily on barns and buildings to roost. Among the bat species which are present in this area, the most likely are Brown long-eared bat (*Plecotus auritus*), the Common pipistrelle bat (*Pipistrellus pipistrellus*), the Midge/soprano pipistrelle bat (*Pipistrellus pygmaeus*), the Natterer's bat (*Myotis nattereri*), Brandt's bat (*Myotis brandtii*), and the Whiskered bat (*Myotis mystacinus*), these will also roost in barns and buildings, exploiting the area between the ridge tiles and the ridge beam.

## 9. Relevant Legislation Bats

- 9.1 The marked decline of all British bats has resulted in their being given protection by law under The Wildlife & Countryside Act 1981. Schedule 5 of this act made it illegal to intentionally kill, injure or take any British bat. It also made it an offence to intentionally damage or destroy their place of rest (the roost).
- 9.2 Further all bat species are protected under Annex 1V of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive), which is enforced in Britain by The Conservation of Habitats & Species Regulations 2017 (amended), and requires the United Kingdom government to provide bats with strict protection.
- 9.3 Schedule 12, Section 5a of the Countryside and Rights of Way Act 2000 makes a number of important changes to the Wildlife and Countryside Act 1981. One of the most significant is the addition of the word "reckless" within offences under Section 9 (4) of the Wildlife and Countryside Act. This covers all bat species.
- 9.4 In the case of a development involving the loss or modification of a barn or building which is being used by bats, it would be necessary to apply to Natural Resources

Wales for a European Protected Species Development Licence. (See also section on Guidelines & Legislation).

## 10. Barn Owls & Nesting Birds

### 10.1

- a) The surveyors examined the outside of both barns. The purpose of this search was to locate any possible Barn owl (*Tyto alba*) access/egress points and to note any barn owl splashing (white faeces splashing) or discarded pellets (regurgitated fur and bones of small mammals, e.g. voles). or any other nesting birds.
- b) There was no evidence of Barn Owls in either barn however during the evening survey 13/6/20 a Tawny Owl (*Strix aluco*) was observed at 22.22hrs. landing on the eastern gable of Barn 2 before flying off in an easterly direction & on 14/6/20 at 21.36hrs a Wren (*Troglodytes troglodytes*) accessed beneath the ridge on the northern aspect of the western elevation of Barn 1. The nest of a Swallows was noted on the interior southern gable of Barn 1.

Wren access point



Swallows' nest



## 11. Habitat Assessment

- 11.1 The site is within an upland rural position surrounded by semi improved undulating pastureland heavily grazed by sheep.
- 11.2 The site has mature native hedgerows surrounding fields and lanes and several mature tree lines to most aspects which offer good linear feature for bats with connectivity to areas of broadleaved woodland to most aspects & the vegetated river corridor of the Afon Trannon to the south in the wider landscape.

## 12. Mitigation

Bats and their roosts are legally protected under the Wildlife and Countryside Act(1981) (as amended) and the Conservation of Habitats & Species Regulations 2017 (amended). Their roosts are also protected even if there are no bats present. The survey has revealed the presence of approximately 3 Common Pipistrelle bats and 1 Soprano Pipistrelle bat emerging/accessing Barn 2 during the survey periods. No bats were observed/detected roosting within Barn 1 at this time. It is therefore necessary that the following mitigation features be incorporated in to subsequent detailed plans of the proposed development in order to compensate for the disturbance/destruction of the existing roosts when the buildings are converted/re-built. Proposed bat mitigation must be included into plans prior to submitting to the planning department.

- a) A European Protected Species (EPS) licence will need to be applied for and obtained from Natural Resources Wales (NRW) prior to any development works on the conversion/re-build of Barn 2. As part of the licence application, a method statement needs to be prepared. This will detail how and when development works can take place to minimise disturbance to bats and will include the design of suitable mitigation features such as roost provision, to ensure no loss of roost space, etc. An EPS licence cannot be applied for until planning permission has been granted. (N.B. the survey report accompanying the licence application must be less than 2 years old).

### 12.1 Specific Bat Provision

- a) 4 Double crevice bat boxes will be erected on the exterior of buildings/adjacent trees prior to any works commencing. These boxes will be positioned approximately 12ft above ground level with the entrances facing south-east or south-west (see Diagram 1 "Example of a Double crevice bat box"). Advice on positioning will be given by ecologist.
- b) All gable end ridge tiles on the converted barns will have a mortar free access cavity for bats to utilize. This will be created by a wooden slug insert (15mm x 25mm) positioned within the end mortar bedding and can be removed when the mortar has gone off/green. This will ensure an access point for bats to the cavity above the ridge beam (see Drawing 1-'Bat Mitigation Barn 1' and Drawing 2- 'Bat Mitigation Barn 2').
- c) In order to provide potential roosting areas for crevice seeking bats 4 bat slits will be created at the intersection of the brickwork/stonework/shiplap & soffits/bargeboards on the eastern & western gables of Barn 2 & the north-eastern

gable of Barn 1, these slits will have minimum dimensions of 150mm x 20mm and be free from internal obstructions (i.e. felt/rafters) to enable the bats to access the area above the gable end walls beneath the slates (see Drawing 1 – ‘Bat Mitigation Barn 1’ and Drawing 2 - ‘Bat Mitigation Barn 2 ’).

- d) The above mitigation has given bats opportunities to potential roosting sites & avoiding necessary lighting & also designed and positioned with regard to the foraging areas. This is a positive step to enhance the potential roosting areas for bats on site.
- e) All mitigation must be drawn onto proposed plans prior to submission to planning department. The above mitigation can be adapted to suit the proposed plans of the development & can be discussed with the ecologist for advice.

## **12.2 Artificial lighting**

Artificial lighting is highly disturbing to some bat species. Any external lighting features for the development should be located with consideration for bats. Ideally lights would be confined to those areas where human access is occurring and where health and safety considerations demand such lights. Any such lights should be angled downwards to illuminate the walking areas only and should be placed at no more than 2.5m above the ground level. In addition such lights should be on automatic timers so that they switch off after a few minutes and do not stay on all night. Motion sensors are acceptable.

## **12.3 Materials & Treatments**

- a) Wherever possible the use of natural untreated products should be utilised. However recognising that this is not always possible given the various building and fire regulations, care should be exercised in the use of any materials and chemicals (advice available from NRW).
- b) Ideally any replacement roof timbers would be made of untreated wood. Tanalised wood in particular contains copper arsenic which is toxic to bats and should be avoided. As it will be necessary to treat the replacement timbers to avoid problems of rotting, only chemicals on the Natural Resources Wales approved list should be used (available from NRW).
- c) With respect to the possible protective treatment of the existing or replacement timbers to guard against wood worm or other timber pests, again it will be essential to ensure that only those remedial treatments which are not toxic to bats be utilised.

Again only chemicals listed on the NRW approved list should be used.

- d) The old type of bitumen felt, (Type 747 1F or similar) must be used where bat access/roosting areas are created, this being less harmful to bats than new types of breathable roofing membranes.
- e) 2 bird boxes will be erected on suitable buildings/trees for Wrens.

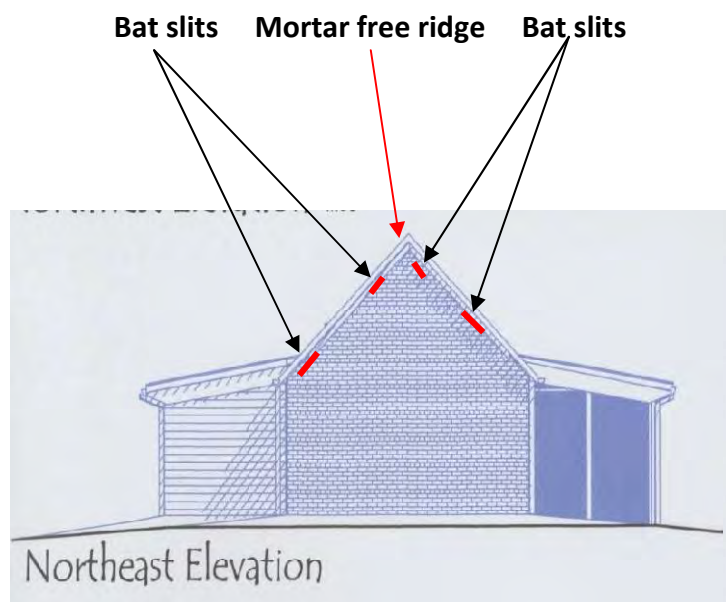
## **12.4 Timing**

- a) Bat boxes will be positioned on buildings/adjacent trees prior to any works to the barns being undertaken (i.e. removal of roof covering, tin sheeting or any ground works).
- b) Given that there were approximately 3 Common Pipistrelle bats and 1 Soprano Pipistrelle bat emerging/accessing Barn 2 during the survey periods, it will be necessary for a European Protected Species licence (EPS) to be obtained prior to the development of this barn commencing as the present roost sites will be destroyed. N.B. application for a bat licence cannot be undertaken until full planning consent has been granted. The licensing process can take a minimum of 30 working days after submission to NRW (N.B. the survey report accompanying the licence application must be less than 2 years old).
- c) The preferred time for the removal of any roof covering to Barn 2 or any conversion works would be mid-September – April when bats are less active. During the removal of the roof covering to Barn 2 it will be necessary for a licensed ecologist to be on site to undertake a watching brief when areas of potential are being removed (i.e. ridge cappings, gable end tin sheeting). If any bats are found these should be removed and relocated on site (by ecologist). The ecologist will also give a tool box talk to contractors to explain bat legislation & guidelines and explain the bat mitigation strategy for the new development.
- d) Inspection of the bat access points within the new development will be carried out by the ecologist once they have been completed.

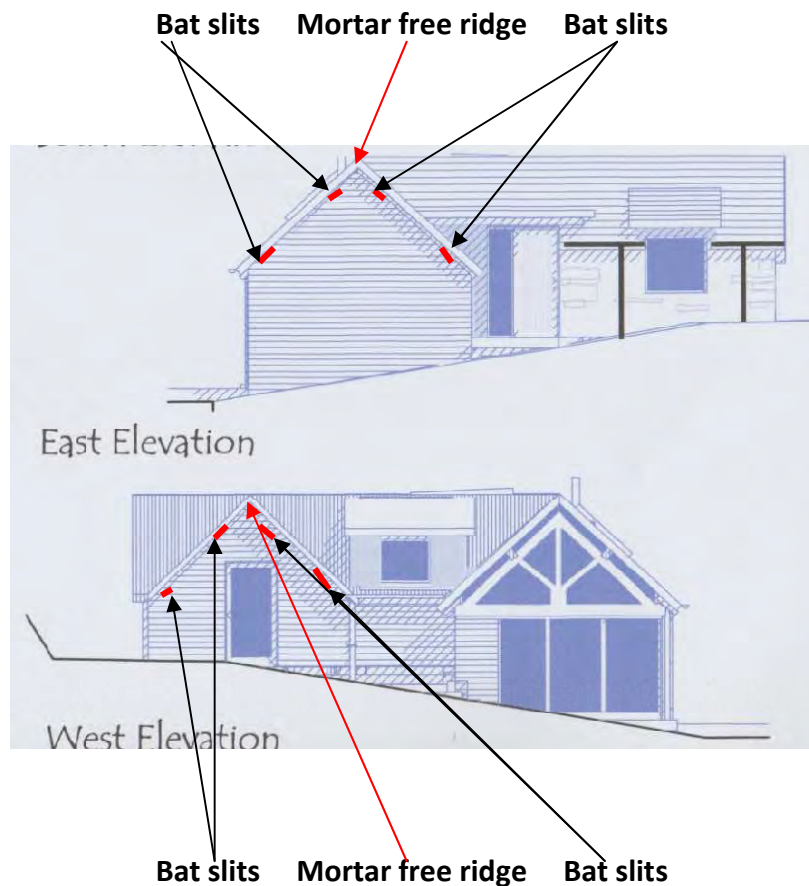
**DIAGRAM 1 “Example of a double crevice bat box”**



**DRAWING 1 “Bat Mitigation Barn 1”**



## DRAWING 2 “Bat Mitigation Barn 2”



### 13 Conclusion

- 13.1 Approximately 3 Common Pipistrelle bats (*Pipistrellus pipistrellus*) and 1 Soprano Pipistrelle bat (*Pipistrellus pygmaeus*), were observed emerging/accessing Barn 2 during the survey periods, suggesting a summer/day roost for a small number of these species probably non-breeding females &/or solitary males. Mitigation is therefore necessary to compensate for the loss of current roosts and enhance the site by providing extra potential for bats to exploit/utilise/roost.
- 13.2 With some provision being made for bats in the development, as suggested above, this will be a positive step in maintaining/enhancing the site for the bats in the area.
- 13.3 It is our professional opinion that the proposed development is highly unlikely to have any significant impact upon bats providing the above recommendations are adhered to and subsequently made a condition of planning.

- 13.4 An EPS licence will be necessary for the development works/conversion of Barn 2 given the presence of bats and the proposed disturbance/destruction of roost sites. Roosts are legally protected even if bats are not present.
- 13.5 It is highly recommended that mitigation/enhancements be discussed with a licensed ecologist and drawn into the detailed plans for development at the earliest possible stage. All mitigation has been outlined in this report but will require more detail within the method statement which accompanies the licence application.
- 13.6 N.B. the licence application process can be lengthy (up to 3 months and sometimes longer) so it is therefore recommended that a licence be applied for when it becomes apparent (i.e. that planning permissions are in place, etc) that works can start in 3-4 months time. Please remember that works will not be able to start during the summer roosting season (i.e. April to September).
- 13.7 N.B. – works on Barn 1 can be undertaken as soon as planning has been approved given that no bats were observed/detected roosting within this barn at the times of surveys.

## 14. Photographs

### BARN 1



Western elevation



Eastern elevation





**Northern gable**



**Southern gable/aspect**



**Interior centre**



**Interior northern aspect**



**Interior southern aspect**



**Lean-to at eastern aspect**

**BARN 2**



**Southern elevation**



**Northern elevation**



**Eastern gable**



**Western gable**



**Interior**

## HABITAT



**South**



**West**



**North**



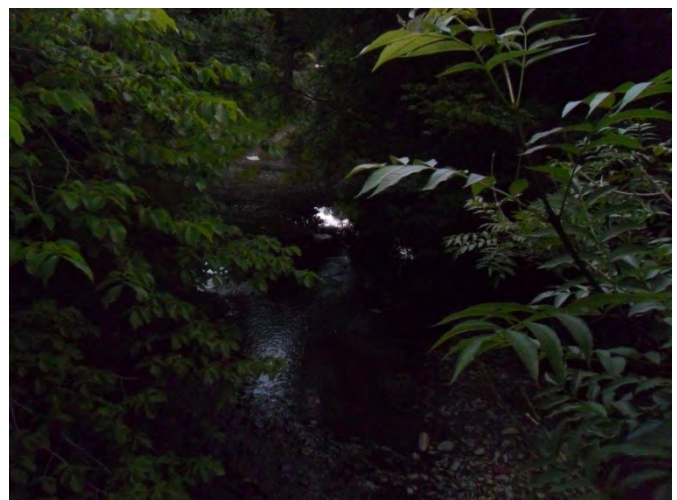
**East**



**Barn 2**

**House**

**Barn 1**



**Afon Trannon to south**

## 15. Bat Guidelines and Legislation

### Legislation

All bats are protected under the Wildlife and Countryside Act 1981 (as amended) and under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (amended). Under this legislation it is an offence to:

- Intentionally kill, injure or capture a bat
- Deliberately disturb bats
- Damage, destroy or obstruct access to roosts (a bat roost is defined as any structure or place which is used for shelter or protection, whether or not bats are present)

The potential fine for each offence is £5,000. If more than one bat is involved, the fine is £5,000 per bat. An offender can also be imprisoned for six months. Defences exist within the legislation should an offence occur as the result of an otherwise legal operation and could not have been reasonably avoided.

### Guidance for developers

Prior to the commencement of works, a survey of all potential bat roosts (both in trees and buildings) should be undertaken by an experienced ecologist or bat worker. Woodpecker holes, rot holes/cavities, loose bark, dense ivy, existing bat or bird boxes, roof spaces, wall cavities, bridges and tunnels all represent potential bat roosting sites.

All accessible roost sites should be examined for evidence which may indicate the presence of bats, where available, any records provided by NRW, local bat groups or other conservation bodies should be used to supplement survey data.

Where bats are known or suspected to occur in close proximity to proposed operations (through survey data or records from other organisations), a licensed ecologist or bat worker will need to consult with the relevant statutory body, NRW, with regard to licensing requirements. The ecologist or bat worker will also be required to devise appropriate working methods and all subsequent work must be carried out under their close supervision. Works on hibernation roosts can only be undertaken between May and September. Works on maternity roosts should be undertaken between November and March but may be able to start in mid September and carry on until May.

Where impacts on bats are unavoidable mitigation will be required as part of the development licence issued by NRW. Losses of bat roosts must be compensated for by the provision of new artificial roosting sites (e.g. bat boxes) and planting of new foraging habitat. Mitigation measures will need to be designed on a site-specific basis and only in consultation with an expert. All mitigation proposals must be agreed with NRW and put in place prior to the commencement of works. Mitigation works can take several months to complete and in some cases may extend into the following year.

If bats are unexpectedly discovered during the course of operations, all works should cease immediately, and an ecologist or bat worker should be employed who will contact NRW. Any loose bats should be returned to the roost and any openings closed until the ecologist or bat worker arrives. Injured bats should be placed in a secure but well ventilated box (bats should be handled as little as possible, and gloves worn).

Any dead bats should be retained for inspection. Appropriate mitigation proposals will then have to be devised and agreed with NRW and works may have to be delayed until mitigation can be carried out at the appropriate time of year.

**Jon Sloan**  
**Ecological Consultants**  
**25/8/20**