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Bwlch Y Pri
Llangurig
Powys

Ecological Survey

October 2018

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TABLE OF CONTENTS

1. Executive Summary	3
2. Background.....	3
3. Constraints.....	4
4. Site Description.....	4
5. Survey Methodology & Personnel.....	8
6. Survey – Daytime.....	9
7. Survey – Evening & Dawn.....	9
8. Ecology of British Bats.....	13
9. Relevant Legislation Bats	14
10. Barn Owls & Nesting Birds.....	14
11. Habitat Assessment	16
12. Mitigation	16
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	27

1. Executive Summary

- 1.1 A protected species survey was carried out on the existing dwelling and barn known as Bwlch Y Pri, Llangurig, in June, July and August 2018. This survey included daytime investigation, 3 evening emergence surveys and a dawn re-entry survey.
- 1.2 The survey has revealed 1 Common Pipistrelle bat and 1 Myotis bat emerging from the barn.
- 1.3 Recommendations are made with respect to timing/method of works on the property 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 Bwlch Y Pri is situated at Grid Ref SN 865819, approximately 4km north west of the village of Llangurig. It is accessed off a council maintained road from Pant Mawr to Old Hall, this off the A44 Llangurig - Aberystwyth Road. (see map & Aerial views).
- 2.2 The house and barn are situated in an upland rural position, overlooking the Wye valley. The site is surrounded by undulating pastureland grazed by sheep and cattle. There are hedgerows & tree lines surrounding the site which offer good linear features for bats & connectivity to the vegetated corridor of the River Wye in the wider landscape.
- 2.3 The owners propose to demolish the existing house and convert the barn into a residential dwelling.
- 2.4 Prior to undertaking these works architect Ian Pryce Property services on behalf of the property owners, Mr and Mrs A Howells commissioned an ecological survey to determine if the work would have an impact on any protected species. The Jon Sloan Ecological Consultancy was therefore engaged to undertake the survey and produce a report with appropriate mitigation recommendations. This report encompasses details of the survey work undertaken.

3. Constraints

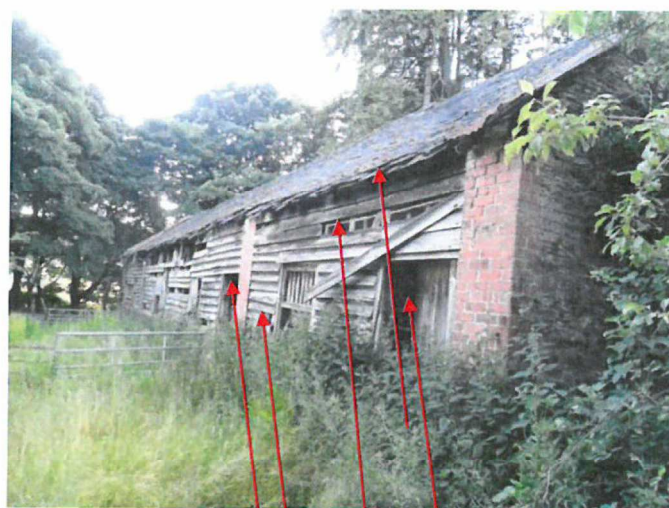
- 3.1 There were several constraints to the undertaking of the site survey, whilst the property was easily located, and the surveyors were given complete freedom of access to all parts of the house, barn and exteriors, it was not possible to fully observe the eastern elevation of the house and the northern gable of the barn given visibility impaired by overgrown trees/bushes. Extreme care was necessary whilst undertaking inspections of the house given the unsafe structure of this building. It was difficult to identify any potential bat droppings within interior of the northern aspect of the barn given the accumulation of wet animal waste on the floor. The first floor of the barn was deemed unsuitable to support the weight of a human given the rotten/missing/displaced ceiling joists & floor boards.
- 3.2 Inspections were undertaken, wherever possible, 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

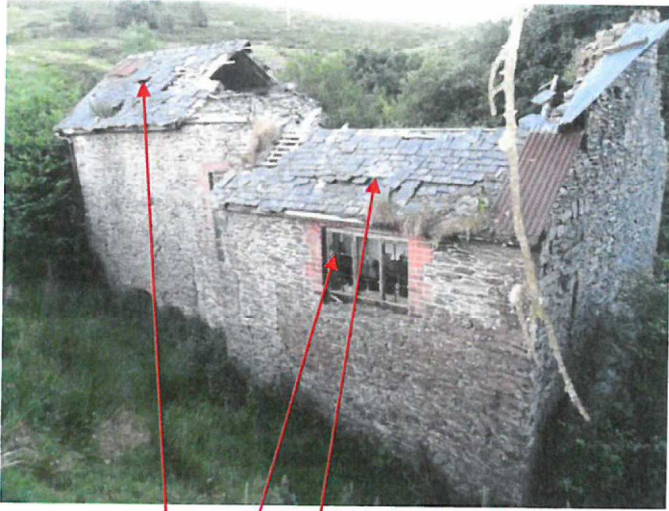
- 4.1 The site is within an upland rural location, overlooking the Wye Valley, surrounded by undulating semi improved pastureland grazed by sheep and cattle. The property is off a council maintained road from Pant Mawr to Old Hall, this off the A44 Llangurig - Aberystwyth Road. (see map & Aerial views).
- 4.2 The house was a detached 2 storey dwelling, stone built with brick, decorative infills around the windows and doors. The upper floor of the dwelling is no longer in situ & the natural slate roof has almost completely collapsed to both aspects. There is a small porch on the northern gable built of brick & stone. The northern gable and eastern elevation of the house are obscured by overgrown trees.
- 4.3 The barn is situated approximately 10 meters south of the house; this being of an oak timber frame construction, with stone built walls and brick, decorative infills to the northern, southern and western aspects. The eastern elevation has 3 brick columns clad/weatherproofed with shiplap boarding. The majority of the roof is clad in natural slate with the northern aspect of the western elevation clad in corrugated tin sheet.

- 4.4 The structure of the house is in an extremely poor condition, offering limited opportunities for bats to utilize/roost; however there are some stress fractures within the stone work (internally & externally), missing / displaced roof slates and open doors and windows. The structure of the barn is in reasonable condition however there are areas of potential for bats to utilize/roost i.e. gaps in shiplap boarding, stress fractures in stonework, displaced/ missing roof slates, gaps under bargeboard and ridge tiles and open doors and windows (see photographs Areas of potential for bats)
- 4.5 There are hedgerows & tree lines surrounding the site which offer good linear features for bats & connectivity to the vegetated corridor of the River Wye in the wider landscape.

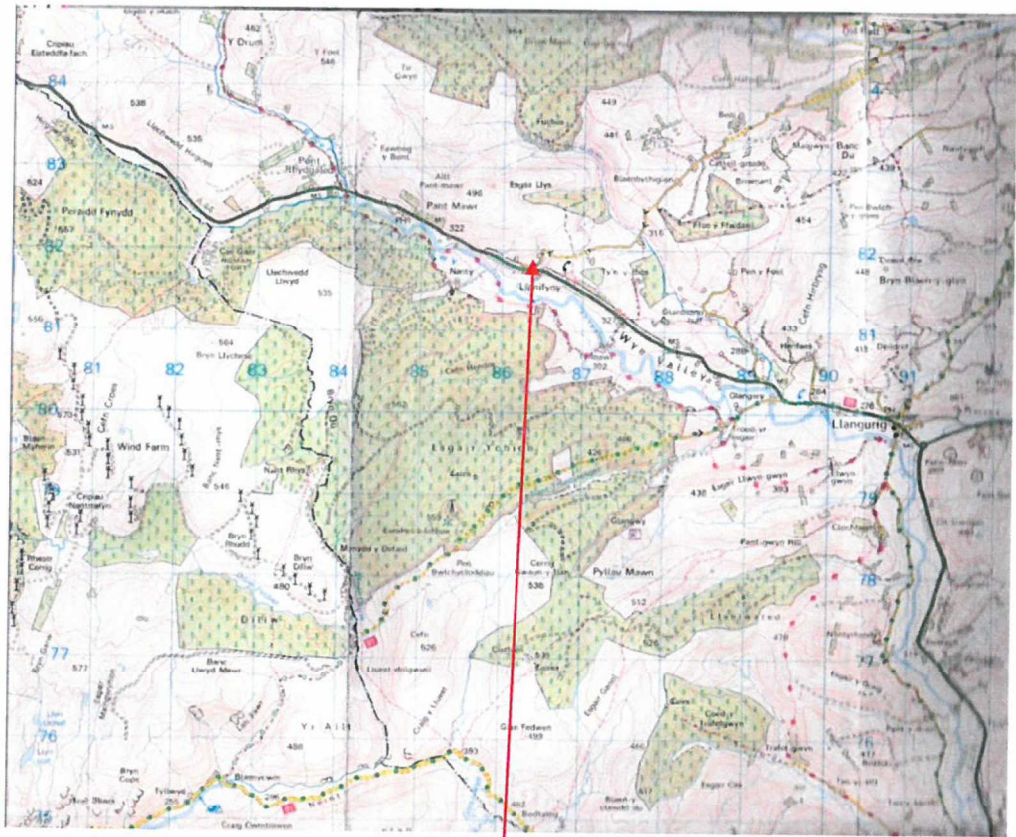
Areas of potential for bats;



Barn; missing/displaced slates, under ridge tile, stress fractures in stonework, missing/ displaced shiplap, open doors/windows



House; Derelict roof, missing/ displaced slates, open windows and doors, gaps and stress fractures in stonework.



Position of Bwlch Y Pri

Aerial Views



Position of Bwlch Y Pri



5. Survey Methodology & Personnel

- 5.1 The surveyors first examined the outside of the house and barn. The purpose of this search 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 inspection, the interiors were inspected, where possible. All these 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: 78079:OTH:CSAB:2018
- NRW barn owl licence: 78483:BTO:DBR:2018
- NRW Great Crested Newt licence: 76772:OTH:SA:2017
- 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.

Janet Jones - Licenced Ecologist

- Accredited agent on above bat and great Crested Newt licence
- NRW barn owl licence: 78878:OTH:DBE:2018
- 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.

Rachael Harris - Fieldwork assistant

- Accredited agent on the above bat licence

Mike Harris - Fieldwork assistant

- Accredited agent on the above bat licence

6. Survey – Daytime

- 6.1 The initial survey was carried out on Wednesday 27th June 2018. The survey was carried out as described above. The surveyors noted locations where bats may gain access to the properties i.e. stress fractures in stone work, missing / displaced roof slates, open doors and windows, gaps in shiplap boarding, and gaps under bargeboard and ridge tiles (see photographs; Areas of potential for bats).
- 6.2 The interiors of both the house and barn were inspected thoroughly, where possible, with the aid of 1.5 million candle power lamps & endoscopes. No evidence of bats was found during the initial survey.
- 6.3 The exteriors of the house and barn were also inspected thoroughly with the aid of 1.5 million candle power lamps, endoscopes & binoculars, no evidence of bats was noted at this time.

7. Survey – Evening & Dawn

- 7.1 Surveys for observation of any evening emergence were made on the evenings of Wednesday 27th June 2018, Thursday 28th June 2018 and Thursday 12th July 2018. The weather on the first evening (27/6/18) was dry and clear. The temperature was 18.5°C at 21:25hrs dropping to 17°C at 23:10hrs sunset was at 21:41hrs. The weather on the second evening (28/6/18) was dry, clear and still. The temperature was 19°C at 21:25hrs dropping to 16.5°C by 23:10hrs, sunset was at 21.41hrs.

The weather on the third evening (12/7/18) was damp with low cloud after earlier rain. The temperature was 17°C at 21:20hrs dropping to 14.9°C at 23:05hrs, sunset was at 21:33hrs.

- 7.2 A dawn re-entry survey was undertaken on Saturday 4th August 2018 from 04:00hrs to 05.40hrs the weather was dry, hazy and overcast. The temperature was 15.3°C at 04:00hrs dropping to 14.1°C at 05:40hrs. Sunrise was at 05:39hrs. There was an abundance of vociferous insect life present during all surveys.
- 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 house & barn were covered during the surveys. Anabat SD1 detectors were used both inside and outside of the house and barn throughout all surveys.
- 7.4 On 27/6/18, occasional Common Pipistrelle bats were observed/detected flying up and down the lane to the east of the site and around the house. No bats were observed emerging or accessing the house during this survey. This survey was mainly concentrated on the house and commenced at 21.25hrs and ended at 23.10hrs, sunset was at 21.41hrs.
- 7.5 On 28/6/18, from 22:23hrs and periodically throughout the survey Common Pipistrelle bats were detected/observed foraging around the trees to the west of the barn. No bats were observed emerging or accessing the barn during this survey. This survey commenced at 21.25hrs and ended at 23.10hrs, sunset was at 21.41hrs.
- 7.6 On 12/7/18 from 22:08hrs and throughout the survey occasional Common Pipistrelle bats were observed/detected commuting into the area, from a southerly direction and foraging around the house and barn. At 22:06hrs a Common Pipistrelle bat emerged from the northern aspect of the eastern elevation of the barn from a gap beneath the shiplap cladding. At 22:56hrs a Myotis (*Myotis Sp.*) bat was observed emerging from approximately the same area of the barn from gaps in displaced shiplap. No further bats were observed emerging or accessing the house or barn during this survey. This survey commenced at 21.20hrs and ended at 23.05hrs, sunset was at 21.33hrs.
- 7.7 During the dawn survey on 04/8/18, at 04:05hrs a Myotis bat was detected/observed flying around the site and an occasional pass of a Pipistrelle bat was detected from 04.14hrs to 04:57hrs. . No bats were observed emerging or accessing

the house or barn during this survey. The dawn survey commenced at 04:00hrs and ended at 05.40hrs sunrise was at 05:39hrs.

Bat emergence points



Eastern elevation - from a gap in displaced shiplap.

7.8 Anabat SD1 detectors positioned inside the house and barn during the survey periods recorded the following data:

Anabats placed in the house only detected data from bats flying through the site

28/6/18 (Dusk)

Inside barn (North)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 1 pass - 22:14hrs; 1 pass - 22:28hrs.
- Myotis (*Myotis sp.*) - 5 passes - 22:19hrs - 22:52hrs.

Inside barn (South)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 1 pass - 22:17hrs; 1 pass - 22:55hrs.
- Myotis bat (*Myotis Sp.*) - 4 very brief passes - 22:22hrs - 22:38hrs.

12/7/18 (Dusk)

Inside barn (North)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 1 very brief pass (consistent with outside activity) - 22:07hrs.

4/8/18 (Dawn)

Inside barn (North)

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 1 pass - 04:00hrs.
- Common Pipistrelle (*Pipistrellus pipistrellus*) - 2 very brief passes - 04:00hrs - 04:02hrs.
- Myotis (*Myotis Sp.*) - 1 very brief pass - 05:05hrs

4/8/18 (Dawn)

Inside barn (South)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 7 passes - 04:11hrs - 04:53hrs
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 1 pass 05:03hrs.
- Myotis (*Myotis Sp.*) - 1 pass - 05:11hrs.

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

27/6/18 (Dusk)

Outside House (North)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 3 passes - 22.21hrs.

Outside House (West)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 3 passes - 22:18hrs - 22:50hrs.

28/6/18 (Dusk)

Outside Barn (West)

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 2 passes - 22:12hrs; 2 passes - 22:36hrs - 22:37hrs; 1 pass - 22:53hrs.
- Common Pipistrelle (*Pipistrellus pipistrellus*) - 9 passes - 22:24hrs- 22:33hrs; 8 passes - 22:42hrs - 22:59hrs.
- Myotis (*Myotis sp.*) - 1 pass - 22:39hrs.

12/7/18 (Dusk)

Outside House (North)

- Common Pipistrelle (*Pipistrellus pipistrellus*) - 23 passes - 21:45hrs - 21:57hrs; 12 passes - 22:01hrs - 22:48hrs; 2 passes - 22:54hrs - 22:59hrs.
- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 3 passes - 21:46hrs - 21:57hrs; 5 passes - 22:03hrs - 22:43hrs; 1 pass - 22:58hrs.
- Myotis (*Myotis Sp.*) - 1 very brief pass - 21:49hrs; 5 passes - 22:51hrs - 22:53hrs.

Outside Barn (West)

- Soprano Pipistrelle (*Pipistrellus pygmaeus*) - 1 very brief pass - 22:02hrs; 3 brief passes - 22:19hrs - 22:47hrs.
- Common Pipistrelle (*Pipistrellus pipistrellus*) - 10 passes - 22:06hrs - 22:53hrs; 2 passes - 22:58hrs - 22:59hrs; 2 passes 23:00hrs - 23:05hrs.
- Myotis (*Myotis sp*) - 1 brief pass - 22:57hrs.

4/8/18 (Dawn)

Outside House (North)

- Noctule (*Nyctalus noctula*) – 1 pass - 04:00hrs.
- Myotis (*Myotis Sp.*) - 1 pass - 04:17hrs
- Common Pipistrelle (*Pipistrellus pipistrellus*) – 2 passes 04.24hrs - 04:51hrs.

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 (as amended). 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. Nesting Birds

- 10.1 a) The surveyors first examined the outside house and barn. The purpose of these searches was to locate any possible access/egress points and to note any

bird nests/splashings. Following the external inspections, the interiors were surveyed. A 1.5 million candle power lamp was used to carry out this search.

- b) Evidence of Barn Owls was identified in both the house and the barn. Barn owl splashings were identified at the northern aspect of the western elevation of the house roof and on an interior beam at the northern aspect of the barn. Barn owl feathers were observed inside the barn at the northern aspect and on the upper fireplace of the house. Barn Owl pellets were also observed at 3 points within the house. (see photographs Evidence of Barn Owls and Nesting birds). A Barn Owl was also observed during the dawn survey perched on the southern gable of the barn & then flying over the barn & house in a northerly direction at approximately 04.50hrs.
- c) A Wrens nest (*Troglodytes troglodytes*) was identified within displaced brickwork at the northern aspect of the house. (see photographs Evidence of Barn Owls and Nesting birds)

Evidence of Barn Owls and Nesting birds



Barn Owl pellet observed inside the house
- Ground floor



Barn Owl feather observed inside the house - on upper fireplace



Barn owl pellet observed inside the house
- southern aspect of ground floor



Barn Owl feather observed inside the house



Barn Owl splashing observed inside the barn - northern aspect



Wrens nest at northern aspect of the house.

11. Habitat Assessment

11.1 Bwlch Y Pri is situated approximately 4km north west of the village of Llangurig. It is accessed off a council maintained road from Pant Mawr to Old Hall, this off the A44 Llangurig - Aberystwyth Road. (see map & Aerial views).

11.2 The house and barn are situated in an upland rural position, overlooking the Wye valley.

- 11.3 The surrounding countryside, consists of undulating pastureland grazed by sheep and cattle. There are hedgerows & tree lines surrounding the site which offer good linear features for bats & connectivity to the vegetated corridor of the River Wye 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. Given the presence of approximately 1 Pipistrelle bat & 1 Myotis bat observed/detected accessing/emerging the barn during the surveys (see Survey Evening and Dawn), it is suggested that the following mitigation features be incorporated in to subsequent detailed plans of the proposed development in order to compensate for the destruction/ disturbance of the existing roosts. Bat mitigation has been shown on photographs as no plans were available at the time of writing this report. Proposed bat mitigation must be included within subsequent detailed plans prior to submitting to planning department.

A European Protected Species (EPS) licence will need to be applied for and obtained from Natural Resources Wales (NRW) prior to the works taking place. 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.

12.1 Specific Bat Provision

- a) It will be necessary to position 3 “Double crevice” bat boxes on trees and/or the exterior of the barn prior to any works commencing on the roof of the barn or demolition of the house. These boxes should be positioned at least 12’ above ground level and facing south-east or southwest (see Diagram 1 “Example of a Double crevice bat box”). Advice on positioning will be given by ecologist.

- b) A dedicated bat loft will be provided at the northern end of the converted barn. Measurements will be a minimum of 2m in height, 4m wide and 5m long. The roost areas must also provide some cavities for the bats to roost within, and rough surfaces for them to hang from i.e. the roof felting to both sides of the ridge beam to be the

old type bitumen felt (type 747 1F or similar), which will allow the bats to grip and hang from it.

- c) Cavities for crevice seeking bats to roost within must also be provided within the bat loft, by means of 2 simple wooden bat boxes/internal wooden cladding to the gable end/internal gable with bat access into the batten void (see diagram 2 "Example of internal wooden cladding"). This will provide further opportunities (including warm areas) for the bats to exploit/roost within the barn. Advice can be given by ecologist of size and measurements to appointed contractor when on site.
- d) The floor area of the new bat loft should be boarded out in order to take the weight of a human, it is also advisable to insulate the floor area of the bat loft to maintain, as much as possible, an even temperature within the roost and to cover the floor area with removable, breathable membrane which will protect the roost from moisture build up and make it easier to clean out accumulations of droppings if necessary.
- e) The loft area must also be accessible to people via a loft hatch/or similar so that the roost can be monitored and cleaned if necessary. The presence of a bat loft and the significance of this should be indicated on the hatch. It may also be necessary to carry out repairs/servicing of electrical cables etc. which if possible should be carried out October- April, care should be taken to disturb any bats as little as possible and an ecologist/bat worker informed of any works to be carried out in order that they can provide any advice at the time.
- f) Access for the bats into the loft area will be created by means of dormer style slot and lead bat flashing , positioned approximately 1m down from the apex of the northern gable This access point must be free from any internal obstructions & allow bats access to the loft area (see Photographs 1-3 - Bat loft with access points and mitigation in gable ends', diagram 3 "Dormer style slot", and diagram 4 "lead bat flashing").
- g) In order to provide possible extra roosting for the crevice seeking bats in the area, it is suggested creating 4 slits in both the northern and southern gables. Slits with minimum dimensions of 150mm by 15mm should be provided and all should be free from internal obstructions (i.e. felt/rafters) and permit the bats to access the area beneath the slates & above the gable end walls (see photographs 1-3 - Bat loft with access points and mitigation in gable ends')
- h) All gable end ridge tiles will also have a mortar free access cavity for bats to utilise. This will be created by a wooden slug insert (15mm x 25mm) positioned within the end mortar bedding and can be removed when mortar has gone off/ green. This will

ensure an access point for bats to the cavity above the ridge beam walls (see photographs 1-3 - Bat loft with access points and mitigation in gable ends')

- i) It will also be necessary to provide a Barn owl nesting box on an adjacent tree or on the end of the converted building. The ecologist will advise on type of box & positioning (see photograph 4 "Barn Owl Box").

12.2 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 under slating felt, (Type 747 1F or similar) will be used where bat mitigation is provided, this being less harmful to bats than new types of breathable roofing membranes & will allow bats to grip & hang from safely.

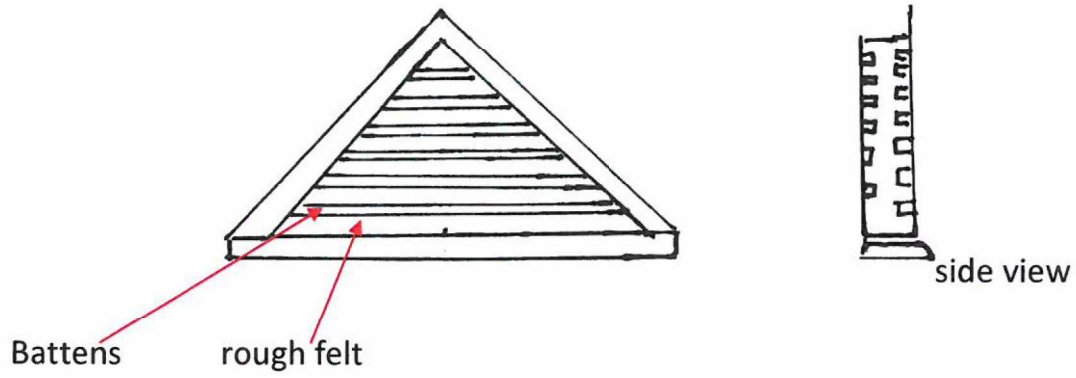
12.4 Timing

- a) 3 bat boxes will be positioned on the barn /adjacent trees prior to any works being undertaken on the barn or demolition of house (i.e. removal of roof covering or any stonework).
- b) Given the presence of bats foraging and roosting within the barn, development works and the bat mitigation strategy will take place between mid-September – April when bats are less active and likely to have gone into hibernation. Care must be taken when removing any roof covering and it will be necessary for a licensed ecologist/bat worker to carry out a watching brief when the ridge capping/tiles & roof covering to gables is being removed.
- c) A European Protected Species (EPS) licence will be required before work can commence. **N.B.** licence applications to Natural Resources Wales (NRW) take a minimum of 30 working days to process once it has been submitted (i.e. after full planning has been granted).
- d) Inspection of the bat loft & access points must be carried out by a licensed ecologist/bat worker once they have been completed and deemed fit for purpose.

DIAGRAM 1 “Example of a double crevice bat box”



Diagram 2 - Example of internal wooden bat boxes/cladding



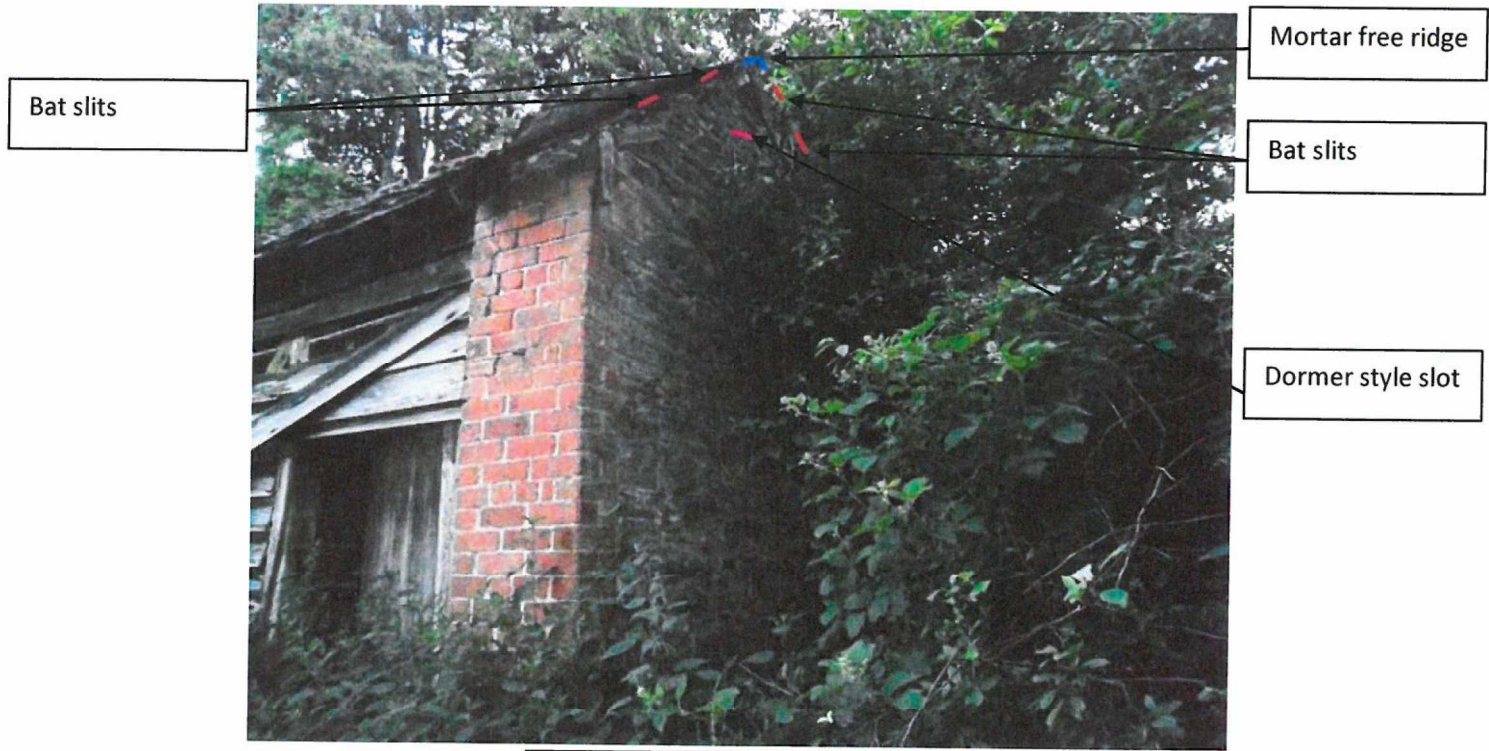
Photographs 1, 2 and 3 - Bat loft with access points and mitigation in gable ends

Bat loft - 5 m x 4m x 2 m

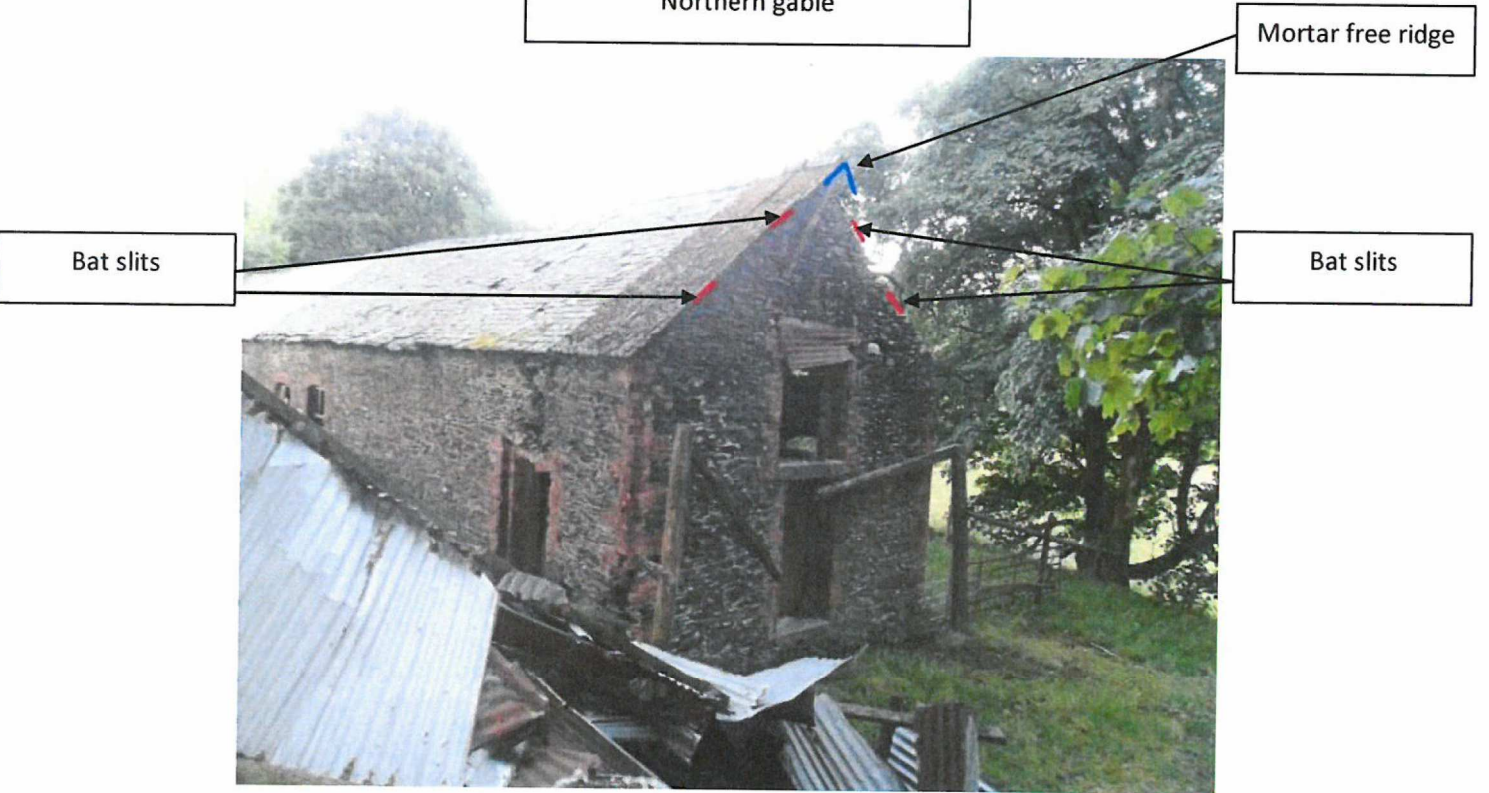


Dormer style slot

Northern gable/ Eastern elevation



Northern gable



Southern gable

Diagram 3 "Dormer style slot"

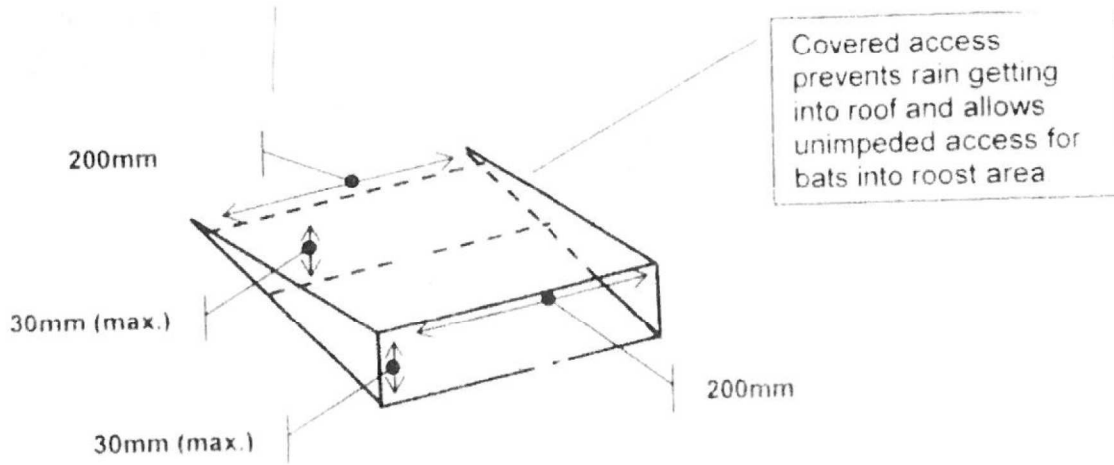
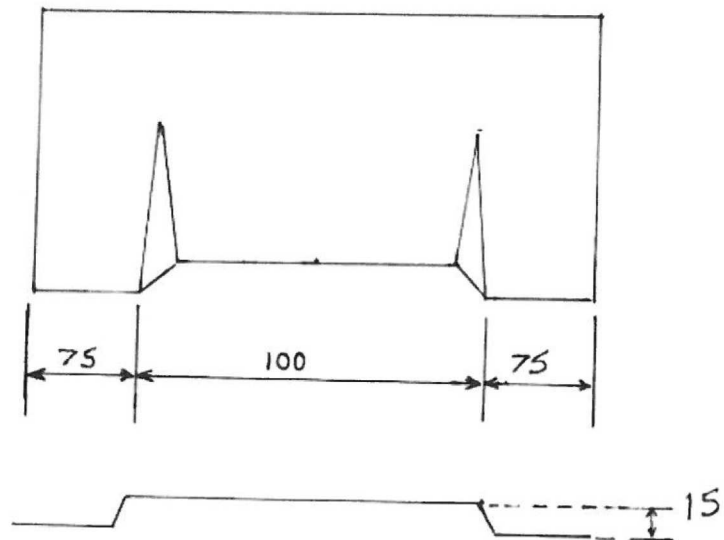


Diagram 4 "Lead bat flashing"



Photograph 4 - Barn Owl Box



13. Conclusion;

- 13.1 1 Common Pipistrelle bat and 1 Myotis bat were observed emerging from the northern aspect of the eastern elevation of the barn from gaps within shiplap cladding, suggesting an occasional summer roost for the species, probably solitary males or non-breeding females. 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/creating roosts and 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 to the barn & demolition of the house given the presence of bats and the 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 subsequent 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.

14. Photographs



Western elevation of barn



Southern gable of barn



Eastern elevation of barn



Northern gable of barn



Interior - Upper floor of barn



Broken A frame - barn



Northern interior gable - barn



Barn floor



Northern gable - house



Western elevation - house



Southern gable - house



Eastern elevation - house



Southern interior of house



Central chimney/ fireplaces - house



Upper fireplace of house



Northern chimney - house

Habitat



South



East



North



West



Access

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
04/10/18