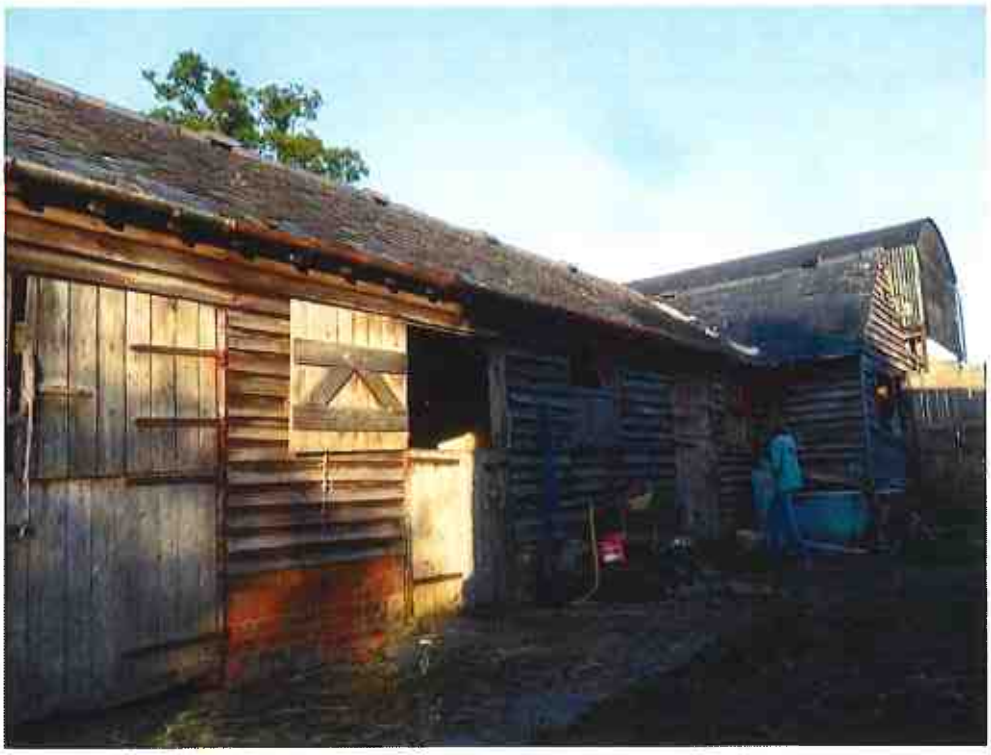
Jon Sloan

Ecological Consultants



Mount Pleasant
Churchstoke
Powys

Ecological Survey

September 2019

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1. Executive Summary

1.1 A protected species survey was carried out on an agricultural barn at Mount Pleasant, Churchstoke in May, July and August 2019. This survey included daytime investigation, 2 evening emergence surveys and a dawn re-entry survey.

1.2 The survey has revealed 2 Brown Long Eared bats *(Plecotus auritus)*, emerging/accessing the barn during the survey periods.

1.3 Recommendations are made with respect to timing/method of works on the barn 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 Mount Pleasant is a Powys County Council tenanted farm, located at Grid Ref. SO282938, & situated on the outskirts of the village of Churchstoke. The property is accessed directly at the end of a farm track, this off the A489 Newtown to Churchstoke road (see map & Aerial views).

2.2 The surveyed barn is situated within a rural location on a working farm, with further agricultural buildings to the south and west and the main farmhouse to the west, and semi improved pastureland to all other aspects. The main A489 through the village of Churchstoke is situated approximately 200m to the west along with residential properties and a large supermarket.

2.3 The owners of the property, Powys County Council (PCC) plan to demolish the barn.

2.4 Prior to undertaking these works PCC 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 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 barn exteriors & interiors.

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 and mostly clear. There were no limitations on visibility.

4. Site Description

4.1 The barn is situated within a rural village position with further agricultural buildings to the south and west and the main farmhouse to the west. A Dutch barn abuts the surveyed barn at its southern aspect. The A489 road is situated approximately 200m to the west along with residential properties and a large commercial supermarket. Undulating semi improved pastureland grazed by sheep lies to all other aspects.

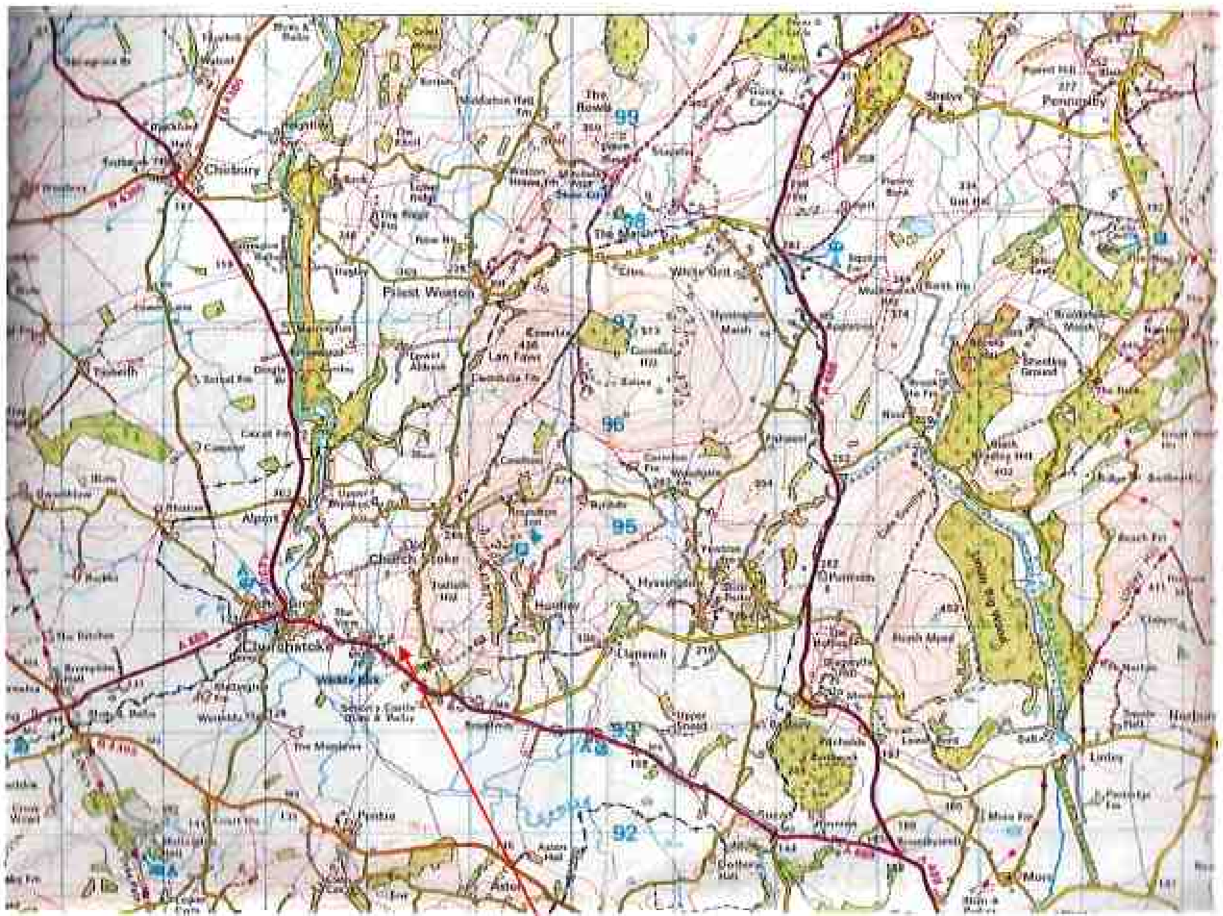
4.2 The barn is a single storey; softwood timber framed building weather proofed in shiplap on a brick base with the roof clad in natural slate.

4.3 The structure of the barn is in a reasonable condition, however there are areas of potential for bats to utilize/roost, i.e. beneath ridge tiles/ridge vents, missing/displaced roof slates, missing/displaced shiplap boarding and open doors and windows (see photographs Areas of potential for bats)

4.4 The surrounding countryside consists of mature hedgerows and sporadic trees surrounding fields and lanes and further agricultural buildings providing good foraging, linear features and flight lines for bats.

Areas of potential for Bats

Example of potential; beneath ridge tiles/ ridge vents, missing/displaced roof slates, missing/displaced shiplap boarding and open doors and windows



Position of Mount Pleasant

Aerial Views

Mount Pleasant

5. Survey Methodology & Personnel

5.1 The surveyors first examined the outside of the 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 interior was inspected. 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:

Personnel carrying out the surveys were:

Jonathan Sloan – Ecological Consultant

- NRW bat licence: 78079:OTH:CSAB:2018
- NRW barn owl licence: S086244/1
- BTO Ringing Permit with a training endorsement
- 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. 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: S086442/1
- 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.

Rachael Harris - Fieldwork assistant & trainee ecologist

- Accredited agent on the above bat licence
- 3 years experience in the field.
- Member of Montgomeryshire & Shropshire Bat Groups & above charity.
- Past experience on undertaking fieldwork & report writing of Phase 1 surveys.

Mike Harris - Fieldwork assistant

- Accredited agent on the above bat licence
- 3 years experience in the field
- Member of the above charity

6. Survey – Daytime

6.1 The initial survey was carried out on Monday 13th May 2019. The survey was carried out as described above. The surveyors noted several locations where bats may gain access to the barn i.e. beneath ridge tiles/ridge vents, missing/displaced roof slates, missing/displaced shiplap boarding and open doors and windows (see photographs Areas of potential for bats). There are several areas of ideal foraging and flight lines for bats surrounding the property, i.e. further agricultural buildings, hedgerows along lanes & fields and sporadic trees.

6.2 The interior of the barn was inspected thoroughly, where possible, with the aid of 1.5 million candle power lamps & endoscopes. A small number of bat droppings were found on bags stored within the southern aspect of the barn. (see Photographs 'Bat droppings in barn').

Bat droppings in barn

7. Survey – Evening & Dawn

7.1 Surveys for observation of any evening emergence were made on the evenings of Monday 13th May 2019 and Wednesday 3rd July 2019. The weather on the first evening (13/5/19) was dry, and mostly clear. The temperature was 11.5ºC at 20:40hrs dropping to 7.2ºC by 22:25hrs sunset was at 20:58hrs.
The weather on the second evening (3/7/19) was dry, clear and still. The temperature was 16.2ºC at 21.20hrs dropping to 9.3ºC by 23.10hrs, sunset was at 21:38hrs.

7.2 A dawn re-entry survey was undertaken on Tuesday 20th August 2019 from 04.30hrs to 06.05hrs the weather was fine with high cloud cover. There was a temperature of 11.6ºC at 04:30hrs dropping to 11.1ºC at 06:05hrs. Sunrise was at 06:02hrs. There was an abundance of 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 barn were covered during the surveys, Anabat SD1 detectors were used both inside and outside the barn throughout all surveys.

7.4 On the 13/5/19 throughout the survey Pipistrelle bats and the occasional Noctule bat were detected foraging within the site. A Common Pipistrelle bat (*Pipistrellus pipistrellus*) was observed flying in and out of the open window of the western gable. This survey commenced at 20.40hrs and ended at 22.25hrs, sunset was at 20:58hrs.

7.5 On 3/7/19 at 22:34hrs a Brown long-eared bat (*Plecotus auritus*) was observed emerging from a gap in a window at the northern aspect of the eastern elevation. At

22:35hrs a second Brown Long Eared bat was observed emerging from an open window at the southern aspect of the western gable (See photographs; "Bat Emergence and Access points"). Throughout the survey Common Pipistrelle bats (*Pipistrellus pipistrellus*) and Soprano Pipistrelle bats *(Pipistrellus pygmaeus)* were observed and detected foraging around the site, at 22:18hrs a Noctule bat was also detected within the area. This survey commenced at 21.20hrs and ended at 23.10hrs, sunset was at 21:38hrs.

7.6 During the dawn re-entry survey on 20/8/19there was little activity observed/ detected on the site. No bats were observed accessing or emerging from the barn during this survey period. This survey commenced at 04:30hrs and ended at 06:05hrs, sunrise was at 06:02hrs.

Bat emergence / access points

Western elevation/ Gable - open window

Eastern elevation - gap in window.

7.7 Anabat SD1 detectors positioned inside the barn during the survey periods recorded the following data;

13/5/19 (Dusk)
Inside Centre

- Common Pipistrelle *(Pipistrellus pipistrellus)* - 2 passes - 21:32hrs - 21:53hrs; 3 passes - 22:13hrs - 22:15hrs all very brief and consistent with outside activity.
- Brown long-eared bat (*Plecotus auritus)* - 1 pass - 22:14hrs

Inside south east

- Common Pipistrelle *(Pipistrellus pipistrellus)* - 7 passes - 21:31hrs - 21:57hrs; 4 passes - 22:00hrs - 22:13hrs all very brief and consistent with outside activity.
- Brown long-eared bat (*Plecotus auritus)* - 1 pass - 22:14hrs
- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 1 pass - 22:14hrs

Inside North

- Common Pipistrelle *(Pipistrellus pipistrellus)* - 95 passes - 21:23hrs - 21:59hrs; 34 passes - 22:00hrs - 22:12hrs (consistent with outside activity).
- Brown long-eared bat (*Plecotus auritus)* - 1 pass - 22:13hrs
- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 2 passes- 21:47hrs; 1 pass - 22:13hrs

3/7/19 (Dusk)
Inside Centre

- Common Pipistrelle *(Pipistrellus pipistrellus)* - 3 very faint/brief passes - 22:30hrs - 22:40hrs.

Inside south east

- Common Pipistrelle *(Pipistrellus pipistrellus)* - 7 very brief passes - 22:17hrs - 22:41hrs.
- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 1 pass - 22:27hrs

20/8/19 (Dawn)
Inside Centre

- No data recorded

Inside South east

- No data recorded

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

13/5/19 (Dusk)
Outside East

- Common Pipistrelle *(Pipistrellus pipistrellus)* - 54 passes - 21:14hrs - 21:56hrs; 3 passes - 22:00hrs - 22:03hrs.
- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 1 pass - 21:27hrs; 1 pass - 21:53hrs.
- Noctule bat (*Nyctalus noctula*) - 1 pass - 21:47hrs.
- Myotis (*Myotis Sp.*) - 1 very brief pass - 21:57hrs.

Outside West

- Common Pipistrelle *(Pipistrellus pipistrellus)*– 65 passes - 21:25hrs - 21:29hrs; 33 passes - 22:00hrs - 22:11hrs with Feeding Buzzes and social calls.

3/7/19 (Dusk)
Outside North east

- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 3 passes - 22:10hrs - 22:22hrs; 2 passes - 22:38hrs Noctule bat (*Nyctalus noctula*) - 1 pass - 21:29hrs; 1 pass - 21:49hrs.
- Myotis (*Myotis Sp.*) - 1 pass - 22:02hrs.
- - 22:39hrs.
- Common Pipistrelle *(Pipistrellus pipistrellus)* - 1 pass - 21:48hrs; 5 passes - 22:32hrs - 22:36hrs; 4 passes - 22:41hrs - 22:42hrs.
- Noctule*(Nyctalus noctula)* – 1 pass - 22:51hrs

Outside North west

- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 3 passes - 22:10hrs - 22:22hrs; 2 passes - 22:38hrs - 22:39hrs.
- Common Pipistrelle *(Pipistrellus pipistrellus)* - 1 pass - 21:48hrs; 5 passes - 22:32hrs - 22:36hrs; 4 passes - 22:41hrs - 22:42hrs.
- Noctule*(Nyctalus noctula)* – 1 pass - 22:48hrs.

Outside South West

- Common Pipistrelle *(Pipistrellus pipistrellus)* - 3 passes - 21:53hrs - 21:59hrs; 14 passes - 22:08hrs - 22:19hrs; 21 passes - 22:20hrs - 22:30hrs; 8 passes - 22:33hrs - 22:50hrs.
- Noctule*(Nyctalus noctula)* – 1 pass - 22:10hrs
- Myotis (*Myotis Sp.)* - 1 pass - 22:32hrs.
- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 1 pass - 22:20hrs

20/8/19 (Dawn)
Outside South East

- No data recorded

Outside North West

- No data recorded

Outside West

- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 1 pass - 04:38hrs.
- Myotis (*Myotis Sp.)* - 1 pass - 05:21hrs.

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).

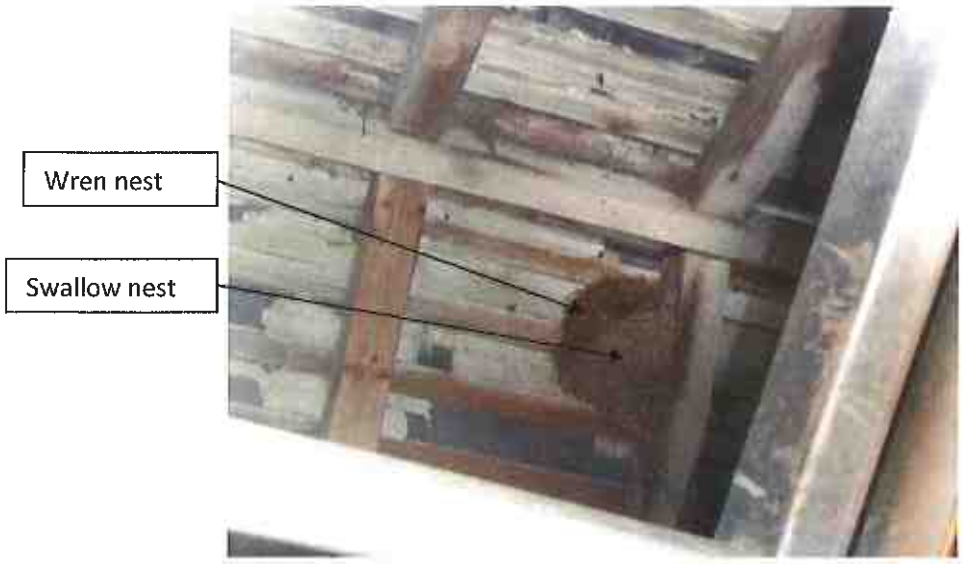
10. Barn Owls & Nesting Birds

10.1

a) The surveyors first examined the outside of the barn. 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 Owl presence within the barn however a Swallow (*Hirundo Rustica*)/ Wren (*Troglodytes troglodytes*) nest was observed within the barn (see photographs "Evidence of nesting birds")

Evidence of nesting birds



11. Habitat Assessment

11.1 The barn, part of a working farm, is situated within a rural village position with a Dutch barn abutting the southern aspect, further agricultural buildings to the south and west and the main farmhouse to the west.

11.2 The property is situated down a farm track & approximately 200m off the A489, with residential properties and a large commercial supermarket along this road. To all other aspects of the barn are areas of undulating semi improved pastureland grazed by sheep.

11.3 The fields & roads are surrounded by mature, native hedgerows providing ideal foraging, linear features & flight lines for bats & providing connectivity to vegetated river/stream corridors in the wider landscape.

12. Mitigation

2 Brown Long Eared bats were observed emerging/accessing the barn during the evening surveys in 2019 however during the dawn survey there was no evidence of bats accessing the barn. It is therefore necessary that the following mitigation

features be incorporated in to the subsequent detailed plans prior to demolishing the existing barn in order to compensate for the destruction of the existing roosts

A European Protected Species (EPS) licence will need to be applied for and obtained from Natural Resources Wales (NRW) prior to any demolition work being undertaken on the barn. 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 bat survey report accompanying the licence application must be no more than 2 years old.

12.1 Specific Bat Provision

a) 3 Double crevice bat boxes will be erected on the exterior of suitable buildings/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) 2 interior bat boxes will be positioned within the adjacent barn to the west of the surveyed barn. These boxes will also be positioned prior to any demolition works being undertaken on the surveyed barn (see photographs "Barn to provide mitigation" & Diagram 2 "Example of internal wooden bat boxes/cladding")

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 Timing

a) External bat boxes will be positioned on suitable buildings/trees & internal bat boxes positioned within the adjacent barn prior to any demolition works being undertaken.

b) Given that there were 2 Brown long-eared bats emerging from the surveyed barn during the survey, it will be necessary for a European Protected Species licence (EPS)

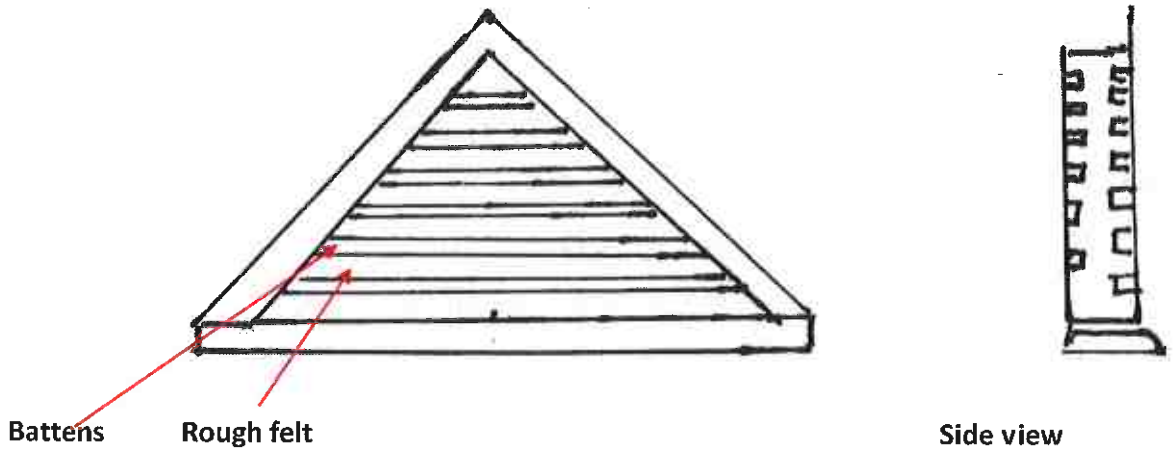
to be obtained prior to the demolition commencing as the present roost sites will be destroyed. N.B. application for a bat licence cannot be undertaken until full planning consent has been granted. The licensing process can take a minimum of 30 working days after submission to NRW (N.B. the survey report accompanying the licence application must be less than 2 years old).

c) Demolition of the barn will take place October – April when bats are less likely to be active. The ecologist will be on site to undertake a watching brief when areas of potential for bats are being removed (i.e. ridge tiles, gable end slating). The ecologist will also give a tool box talk to the contractors regarding bat mitigation & bat legislation/guidelines.

d) Inspection of both the exterior & interior bat boxes within the development will be carried out by the ecologist once they have been fitted.

DIAGRAM 1 "Example of a double crevice bat box"

Diagram 2 - Example of internal wooden bat boxes/cladding



Photograph - Barn to provide mitigation

13. Conclusion;

13.1 2 Brown long-eared bats were observed emerging from the barn, 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 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.

13.3 An EPS licence will be necessary for the demolition of the barn given the presence of bats and the proposed destruction of roost sites. Roosts are legally protected even if bats are not present.

13.4 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 demolition works will not be able to start during the summer roosting season (i.e. April to September).

14. Photographs

Western elevation

Southern Aspect

Eastern elevation

Northern gable

Interior north

Interior South

Habitat

North

East

South

West

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
24/09/19