# Jon Sloan

## Ecological Consultants

# Bodynfoel
# Llanfechain
# Powys

## Ecological Survey

SEPTEMBER 2019

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## 1. Executive Summary

1.1 A protected species survey was carried out on a building at Bodynfoel,Llanfechain, in May, June and August 2019. This survey included daytime investigation, 2 evening emergence surveys and a dawn re-entry survey.

1.2 The survey has revealed 1- 2 Brown Long eared bats and 1-2 Common Pipistrelle bats accessing/emerging the barn during the survey periods.

1.3 Recommendations are made with respect to timing/method of works on the building 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 Bodynfoel is a Powys County Council tenanted farm, situated at Grid Ref. SJ183214, approximately 1km north west of the village of Llanfechain. The property is accessed via a lane, off a council maintained road, this off the B4393 Llansantffraid-ym-Mechain -Llanfechain road (see map & Aerial views).

2.2 The building is situated in an upland rural position, overlooking the Cain Valley with the south-western elevation abutting an agricultural building. There are several further agricultural buildings on the site to the north west & south west. The property is surrounded by semi improved upland pastureland grazed by sheep, with areas of mixed woodland to the south east and north east. Hedgerows & tree lines surround the fields & along lanes which offer good linear features and connectivity for bats to the vegetated river corridor of the Afon Cain in the wider landscape.

2.3 The owners of the property, Powys County Council (PCC) plan to demolish the building given its derelict condition.

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 many 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 building and exteriors, however the building is in a very poor conditions and partly derelict, the roof being supported by props at the south eastern gable aspect and the north western aspect of the north eastern elevation has totally collapsed and was deemed hazardous. The building is almost completely overgrown with brambles, nettles and tree saplings.

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 building is within a working farm with further agricultural buildings on both sides of the lane to the north-west & south-west. The farmhouse is across the lane to the west. The site is in an elevated rural location surrounded by undulating semi improved pastureland grazed by sheep to all aspects. The property is accessed via a lane, off a council maintained road, this off the B4393 Llansantffraid-ym-Mechain - Llanfechain road (see map & Aerial views).

4.2 The building is mainly stone built with the north-western gable in brick. The roof is of a softwood timber framed construction clad in natural slate. The building was formerly 2-storey however is now in a very poor condition structurally.

4.3 The structure of the building is in poor condition, providing numerous areas of potential for bats to utilize, in particular; missing/displaced roof slates, open doors, missing/collapsed stonework with crevices in the remaining stonework (see photographs Areas of potential for bats)

4.4 There are several areas of mature hedgerows, tree lines & further buildings, which offer good foraging areas & linear features for bats & provide connectivity to the vegetated river corridor of the Afon Cain in the wider landscape.

**Areas of potential for bats;**

South eastern gable - open doors and crevices in remaining stonework

North eastern elevation - crevices/ gaps / holes in stonework

North western gable - gaps in brickwork, missing/displaced roof slates


Position of Bodynfoel

# Aerial Views

**Position of Bodynfoel**

## 5. Survey Methodology & Personnel

5.1 The surveyors first examined the outside of the building, where possible, given its unsafe nature & the intrusion of overgrown trees, brambles and nettles. 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, where possible given the dangerous condition of the roof/walls. All these areas, where possible, 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: 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.

**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 Friday 17th May 2019. The survey was carried out as described above. The surveyors noted locations where bats may gain access to the property i.e. missing/displaced roof slates, open doors, missing/ collapsed stonework, and crevice's in the remaining stonework(see photographs; Areas of potential for bats) There are several areas of ideal foraging and flight lines for bats surrounding the property, i.e. hedgerows along lanes & fields and tree lines/areas of woodland.

6.2 The interior of the building was inspected, where possible given the condition of the building, with the aid of 1.5 million candle power lamps & endoscopes. No evidence of bat use was observed during the initial survey.

**7. Survey – Evening & Dawn**

7.1 Surveys for observation of any evening emergence were made on the evenings of Friday 17th May 2019 and Monday 24th June 2019. The weather on the first evening (17/5/19) was dry with high cloud and a light breeze. The temperature was 14.7ºC at

20:45hrs dropping to 12.5ºC at 22:35hrs sunset was at 21:06hrs.
The weather on the second evening (24/6/19) was dry with some high cloud and a temperature of 16ºC at 21:20hrs dropping to14.2ºC by 23:10hrs, sunset was at 21.42hrs.

7.2 A dawn re-entry survey was undertaken on Thursday1st August 2019 from 04:00hrs to 05.35hrs the weather was dry and overcast. The temperature was 13ºC throughout the survey. Sunrise was at 05:31hrs. There was an abundance of 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 property were covered during the surveys. Anabat SD1 detectors were used both inside and outside of the building throughout the surveys.

7.4 On the 17/5/19 at 21:08hrs a Common Pipistrelle (*Pipistrellus pipistrellus)* bat was observed emerging from a crevice in the stonework of the south eastern gable. Throughout the survey occasional Common Pipistrelle bats were detected commuting onto site from a northerly direction & flying towards the woodland to the south-east. No further bats were observed emerging or accessing the building during this survey period. This survey commenced at 20.45hrs and ended at 22.35hrs, sunset was at 21:06hrs.

7.5 On the 24/6/19 at 22:08hrs a Brown long-eared bat (*Plecotus auritus)*, was observed emerging from a gap in the roof at the south eastern aspect of the south western elevation. At 22:45hrs a Myotis bat (*Myotis Sp*.) was detected/ observed flying inside of the building. No further bats were observed emerging or accessing the building during this survey period. This survey commenced at 21.20hrs and ended at 23.10hrs, sunset was at 21.42hrs.

7.6 During the dawn re-entry survey on 1/8/19, at the start of the survey a Brown Long eared bat and a Common Pipistrelle bat were observed flying around inside the building and at the internal apex at the south-eastern aspect. There was very little bat activity during this survey & no further bats were observed emerging or accessing the building at this time. The dawn survey commenced at 04:00hrs and ended at 05.35hrs sunrise was at 05:31hrs.

## Emergence/access points

South Eastern gable - Crevice in the stonework

South westernelevation -From missing/ displaced roof slate

Inside building - flying at Apex

7.7 Anabat SD1 detectors positioned inside the building recorded the following data:

**17/5/19 (Dusk)**

- Common Pipistrelle *(Pipistrellus pipistrellus*) – 1 pass – 21:11hrs; 1 pass – 21:42hrs; 6 passes - 22:01hrs – 22:17hrs (all brief and consistent with outside activity)
- Myotis (*Myotis Sp*.) – 1 pass - 21:45hrs

**24/6/19 (Dusk)**

- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 2 very brief passes – 22:09hrs – 22:17hrs.
- Myotis (*Myotis Sp*.) – 20 very brief passes - 22:10hrs – 22:53hrs (consistent with flying in and out of the building).

**1/8/19 (Dawn)**

- Brown long-eared bat (*Plecotus auritus)*- 1 pass - 04:46hrs.
- Common Pipistrelle *(Pipistrellus pipistrellus*) – 1 pass - 04:09hrs.

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

**17/5/19 (Dusk)**
**Outside North east**

- Common Pipistrelle *(Pipistrellus pipistrellus*) -19 passes - 21:07hrs - 21:59hrs; 40 passes - 22:00hrs - 22:18hrs; 3 passes - 22:21hrs – 22:23hrs (most with feeding buzzes and social calls.
- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - *2* passes - 22:14hrs; 3 passes - 22:20hrs.
- Myotis *(Myotis Sp.)* –1 pass - 22:20hrs.

**Outside South west**

- Common Pipistrelle *(Pipistrellus pipistrellus*) -30 very brief passes - 21:00hrs - 21:59hrs; 8 very brief passes - 22:01hrs - 22:19hrs.
- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - *1* pass - 20:56hrs; 1 pass - 22:14hrs.

**24/6/19 (Dusk)**
**Outside South east**

- Soprano Pipistrelle *(Pipistrellus pygmaeus)* - 1 pass - 22:01hrs.
- Myotis *(Myotis Sp.)* – 1 pass - 22:02hrs; 1 pass – 22:34hrs.

**1/8/19 (Dawn)**
**Outside South east**

- No data recorded.

## 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 The surveyors examined the outside of the building, the purpose of these searches 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.

10.2 There was no evidence of Barn Owl presence or other nesting birds within the building.

## 11. Habitat Assessment

11.1 The property is accessed via a lane, off a council maintained road, this off the B4393 (Llansantffraid-ym-Mechain -Llanfechain road). (see map & Aerial views).

11.2 The building is situated in an upland rural position, overlooking the Cain Valley with the south-western elevations abutting further agricultural buildings. There are further agricultural buildings on the site to the south-west and north west.

11.3 The property is surrounded by semi improved upland pastureland grazed by sheep, with areas of mixed woodland to the south east and north east. Hedgerows & tree lines surround the fields & along lanes which offer good linear features and connectivity for bats to the vegetated river corridor of the Afon Cain 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 1 Common Pipistrelle bat and 1 Brown long eared bat observed/detected accessing/ emerging the building at the south eastern and south western aspects and both species having been observed flying within the building (see Survey Evening and Dawn), it is suggested that the following mitigation features be incorporated in to an adjacent agricultural building in order to compensate for the destruction of the existing roosts on demolition of the surveyed building.

A European Protected Species (EPS) licence will need to be applied for and obtained from Natural Resources Wales (NRW) prior to any works commencing on the building. As part of the licence application, a method statement needs to be prepared. This will detail how and when demolition 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) 3 Double crevice bat boxes will be erected on the exterior of suitable trees/buildings prior to any demolition 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) The provision of some internal wooden cladding on the interior gable end of the adjacent agricultural building will be created with bat access into the batten void (see

diagram 2 “Example of internal wooden cladding”). Advice can be given by ecologist on positioning, size and measurements to the appointed contractor when on site.

**12.2 Timing**

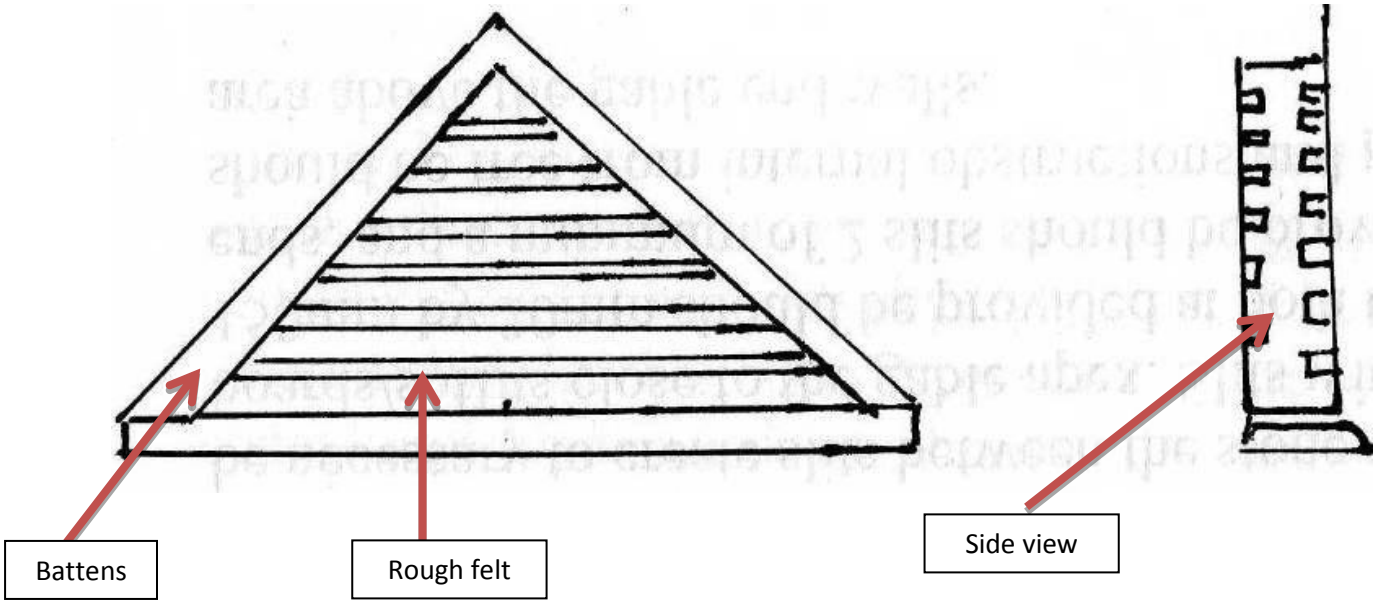
a) Bat boxes (both internal & external) will be positioned on/within suitable buildings/trees prior to any demolition works being undertaken.

b) Given that there was 1 Common Pipistrelle bat and 1 Brown long eared bat observed/detected accessing/ emerging the building at the south eastern and south western aspects and both species having been observed flying within the building and foraging around the site, 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) The preferred time for the removal of any remaining roof covering to the building or any demolition works would be mid-September – April when bats are less likely to be active. During the removal of the roof coverings it is recommended that a licensed ecologist should be on site to undertake a watching brief when areas of potential are being removed (i.e. ridge tiles, slating to gables). 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 within adjacent agricultural building.

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

**Diagram 2 - Example of internal wooden cladding**



**13. Conclusion;**

13.1 1 Common Pipistrelle bat and 1 Brown long eared bat were observed/detected accessing/emerging the building at the south eastern and south western aspects and both species observed flying within the interior of the building (see Survey Evening and Dawn),suggesting a summer roost for the species, probably non-breeding females and/or solitary males. It is therefore suggested mitigation is necessary in order to compensate for the destruction of these roosts and enhance the possibilities of further roosting sites for crevice seeking bats in the area.

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 demolition of the building 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 demolition of the building given the presence of bats and the proposed destruction of roost sites. Roosts are legally protected even if bats are not present.

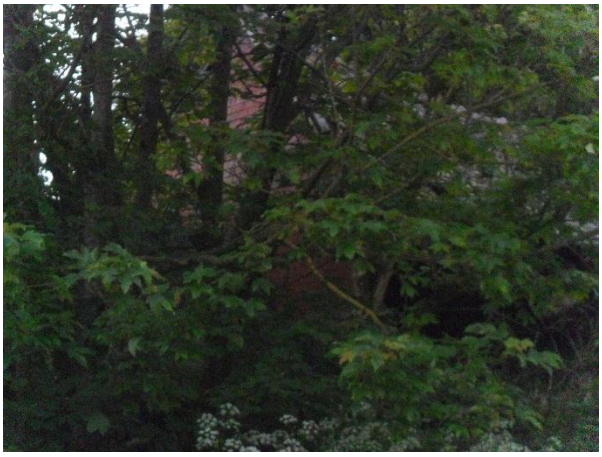
13.5 It is highly recommended that mitigation/enhancements be discussed with a licensed ecologist and drawn into the subsequent detailed plans for development at the earliest possible stage. All mitigation has been outlined in this report but will require more detail within the method statement which accompanies the licence application.

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

## 14. Photographs

South eastern gable

North eastern elevation



North western gable

South western elevation

Interior of building

# Habitat

South east

North east

North west

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**
**06/09/19**