

Bat Survey  
Greenyard Farm  
Argae Lane  
St Andrews Major  
Vale Of Glamorgan  
CF63 1BL  
February 2016  
ON THE INSTRUCTION  
OF  
Andrew Edmunds



Reported by Mr. Richard Watkins  
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## **1.0 The Brief; its background and purpose**

**1.1** Greenyard Farm is a farm complex located on the outskirts of the rural village of St Andrews Major. The farm has been a family run farm for the recent past. The farm has diversified in recent years by opening a golf course. The golf course abuts the farm complex and occupies the surrounding fields. The complex is made up of a number of buildings. The stone barn is used for storage of machinery, the other out buildings have not been used in any capacity for a number of years. The current owner proposes to develop the existing out buildings into residential dwelling lets.

**1.2** To support the planning application a survey has been commissioned to investigate if bats use the property in any capacity.

**1.3** The report is prepared and undertaken by Mr. Richard Watkins BSc. a licensed bat worker (License Number 44278:OTH:CSAB:2013)

**1.4** A data search provided by SEWBRc has identified the nearest bat records in the vicinity of the farm complex to be a small roost of Pipistrelle bats 1100 metres away. No records of any bat roosts on the site were present.

**1.5** There is one statutory protected site within 1 km of the proposed development site, Barry Woodlands, a Site of Special Scientific Interest (SSSI). Barry Woodlands lies to the north west of the proposed development site and is situated along the 1 km boundary. Coed Twyncyn SINC lies to the north east of the proposed development site and is also situated along the 1 km boundary.

## **2.0 Site Description**

**2.1** The complex is situated in the countryside outside St Andrews Major. The nearest significant water course is the Cold Brook, approximately 570m south from the property. There are a number of small ponds on the golf course.

**2.2** The farm house was built in excess of one hundred years ago. The roof is covered with Welsh slate. The building has a traditional cut roof, with an apex frame. The roof slates have no under felt. The building is double storey and has no cellar. The farm house is part of a larger farm complex consisting of a large metal open dutch barn, a stone and sheet roof stable block, a double storey timber clad barn and a stone barn with metal apex roof adjacent to the farm house. This adjacent barn has a smaller single storey stone extension with slate apex roof and to the rear has a large sheet lean to extension.

**2.3** The complex is situated on the border fields that have been converted into a golf course.

**2.4** There is considerable countryside surrounding this part of the VOG. Both the location of the building and the surrounding environment offer good potential for bats.

### **3.0 Report Constraints**

**3.1** The report is solely concerned with bats in relation to the farm complex. Trees and other buildings not directly mentioned have not been included in this report.

**3.2** Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The survey methods employed can provide evidence for the potential presence of bat at the times when the site was visited. Although the methods follow best practice guidance and were carried out in such a way as to maximise the chances of detection, failure to detect the target species cannot be considered as definitive proof of their absence.

**3.3** Even though bats are habitual creatures they can still move to new roosts if more suitable. Therefore this report cannot predict the status of the structure in regard to bat occupancy in the future. This report should be acted upon as soon as practical and will be valid for two years from date of issue. If planning or building works are delayed, it is the responsibility of the client to discuss and gain approval from the *author* before work commences. Natural Resources Wales will only consider reports up to two years old.

### **4.0 Legal Constraints**

**4.1** Bats, and any place a bat uses for breeding or shelter, either currently occupied or unoccupied are protected by European and British law, predominantly by **The Conservation of Habitats and Species Regulations 2010 (as amended)**, which are the principal means by which the Habitats Directive is transposed from European directive into law in England and Wales.

**4.2** In summary this law states that it is an offence to:

- **Deliberately capture or kill a bat**
- **Deliberately disturb a bat**
- **Damage or destroy a breeding site or resting place of a bat**
- **Keep, transport, sell or exchange, or offer for sale or exchange a living or dead bat or any part of a bat**

**4.3** ‘Deliberately’ may also be interpreted, as not intending to injure or kill a bat but having done so due to being insufficiently informed and unaware of the consequences of the action.

**4.4** For a more comprehensive description and exact wording of the legislation please refer to:

<http://www.legislation.gov.uk/uksi/2010/490/contents/made>

**4.5** Where there is a risk that a bat roost may be present, it is incumbent upon the owner to commission a specialist bat survey to identify bat roosts before any work commences. Maximum penalties for offences relating to disturbance to bats or their roosts can amount to imprisonment for a term not exceeding six months or fines of up to Level 5 on the standard scale under the Criminal Justice Act 1982/1991 (i.e. £5000 in April 2001) per roost or bat disturbed or killed, or to both.

**4.6** If a bat roost is discovered no work that could affect the roost can be undertaken until Natural Resources Wales grants a licence endorsing the work. A thorough method statement and adequate mitigation proposal will need to be submitted to support any licence application.

## **5.0 General Information**

**5.1** Bats are unable to build roosts themselves but instead rely on both man made and naturally occurring features to provide suitable accommodation. Bats generally prefer older buildings built with traditional materials, as traditional building methods provide more opportunities for gaps and entrances to buildings. Traditional cut roofs are preferred to a roof with trusses. Bats also prefer to roost where the external roost area has access to sunlight during the day such as south facing roof elevations.

**5.2** Bats can utilise the following features on a building; end tiles, barge board, soffit, gable end, porch, lead flashing hanging tiles, ridge tiles, broken tiles, eaves, sash window frame, wood cladding, fascia board, window sill, and internal roof spaces and timbers, although this list demonstrates the most popular roosting sites its by no means definitive. Bats can use apertures as small as 10mm in diameter to gain access.

**5.3** The U.K bat population is divided into two distinct families, Rhinolophidae and Vespertilionidae. In general, Rhinolophidae (Horse Shoe) bats differ in there roosting requirement to Vespertilionidae (The remainder of UK bat species), in that Horseshoe bats prefer to roost in large areas such as internal attic spaces and hang in the open from the roof of the roost. The bats tend to roost in visible clusters to maintain the high temperatures that a maternity colony needs. Horseshoe bats also prefer free flight access and egress into the roosting area. Horseshoe bats tend to be more light averting to other UK bat species, and routinely fly around the internal roosting area to warm up before exiting. It is noted that Plecotus (Long Eared) bats share some of these preferences. Vesper bats are on the whole are crevice dwelling bats who squeeze into small apertures to access the roost. These like Horseshoe bats will cluster in maternity colonies, but are normally hidden from view. Vesper bats with the exception of Long Eared bats do not require a large internal roost to fly around before exit. Long Eared bats although part of the vesper family are very light averting and will on occasions share the roosting patterns of both Horseshoe and crevice dwelling species.

## **6.0 External Scoping Survey**

**6.1** The scoping survey was undertaken on the **3rd August 2015** in conditions of good natural light, all the external aspects of the building were comprehensively evaluated for roost potential. Evidence was also sought for any staining or droppings, which could suggest bat occupation. Binoculars were used when required.

**6.2** The building was inspected for overt evidence of bat presence and occupation such as:

- Staining around entry or roosting point caused by oils secreted by the bat into its fur
- Scratching on surfaces caused by the bat in the act of take off and landing
- Bat droppings on walls, floors, roof voids, window cills or panes and barge boards
- Urine stains below a possible entrance site, within entrance to a cavity or on timbers used for roosting
- Bats can produce chatter on warm evenings prior to leaving the roost. A heterodyne bat detector is used to help determine this \_\_\_\_\_

- Flies around entrance or on the floor of possible roosts, which may be attracted to bat guano.

**6.3 Gaps in the stone work, apertures in the roof line and gaps in the masonry on the walls offered potential for bats.**

**6.4 No droppings were discovered on any exterior windows or walls, neither was there any evidence of bats located on the roof line during an inspection with binoculars.**

**6.5 The external outbuilding was thoroughly scoped, with cavities and gaps in the slate endoscopically investigated where possible, no evidence of bats were found.**

### **7.0 Internal Inspection**

**7.1** An internal inspection of the buildings looking for bats or bat use was also undertaken on the **3rd August 2015**

**7.2** The interior of the buildings were searched for evidence of bat use.

**7.3** No Brown Long Ear (*Plecotus auritus*) bats were observed on the roof timbers.

**7.4** Species such as Brown Long Eared, and Greater and Lesser Horseshoe bats can transport larger insects and moths back to a place of rest to eat. These sites are typically characterised by a scattering of droppings beneath the wooden beam or structure being used and also discarded anatomy of the prey such as moth wings.

**7.5 No night feeding perches were found in the interior of the extension was identified.**

**7.6** No chatter was recorded on the bat detector, some bats including Pipistrelles chatter in the roost on warm evenings prior to emergence, this chatter can be heard on a heterodyne bat detector at 20kHz.

**7.7 After a careful search of the interior of the attic and buildings no evidence of bats were found.**

### **8.0 Emergence and Dawn Surveys**

**8.1** The emergence surveys were carried out during the maternity season and adhered to current best practice guidelines. These surveys were conducted from half an hour before sunset until two hours post sunset. The surveyors used are all experienced bat counters who have undergone sufficient training in basic bat ecology and bat activity. The Surveyors used were Tyrone Evans, Keith Watkins, Richard Watkins, Gemma Blackmore and Caitlin Watkins. All Sound analysis was undertaken by Richard Watkins.

**8.2** 3rd August 2015. Exit watch by five surveyors

**Bats observed arriving from the north and feeding in the centre square of the farm complex. No bats observed exiting any of the buildings.**

8.3 7th August 2015, Exit Watch by five observers.

**Bats observed arriving from the north and feeding in the centre square of the farm complex.**

**No bats observed exiting any of the buildings.**

8.4 8th August 2015, Dawn watch four observers.

**Bats observed arriving from the north and feeding in the centre square of the farm complex. No bats observed exiting any of the buildings.**

8.5 12th August 2015, Exit Watch by five observers.

**Bats observed arriving from the north and feeding in the centre square of the farm complex. No bats observed exiting any of the buildings.**

8.6 24th August 2016 Exit Watch by 5 surveyors.

**4 Common Pipistrelles was observed leaving from the south apex of the stone barn .**

8.7 Best viewing conditions were obtained.

8.8 Anabat and EM3+ detectors using frequency division was present to acoustically record any bat calls.

**8.9 The square area at the centre of the farm complex was heavily used by feeding bats. The majority of the bats feeding here arrived from the north shortly after sunset suggesting that a roost was in relatively close vicinity.**

8.10 Analysis of Sound recording on bat detectors.

<b>Species of bats recorded in the area but not emerging from the building</b>	
Common Pipistelle	<i>Pipistrellus pipistrellus</i>
Saprano Pipistrelle	<i>Pipistrellus. pygmaeus</i>

## **9.0 Concluding Remarks and Recommendations**

**9.1 The building has a maximum of 4 Common Pipistrelles, using the stone barn as a possible mating roost. These are a relatively common species of bat and in small number. If there is careful consideration to incorporate improved roosting conditions into the renovation this project could offer ecological gain for the resident bats.**

**9.2 The bats are probably male or non breeding females. The emergence surveys did not identify any significant maternity roost.**

**9.3 The property is now a confirmed bat roost, no work that could affect the bat roost is permitted by Law, without the permission from Natural Resources Wales, including any works to the roof. Direct illumination of the building is also not permitted, as this could constitute disturbance. (Please see Section 5 of this report for further information).**

**9.4 If planning is approved the legal owner must apply and be in possession of a Licence to destroy the roost, this will take approximately 30 working days to be issued. This licence would have to offer a methodology to ensure that any loss of roosting sites be replaced and preferably enhanced in the new build and the project be undertaken in a way which minimises any risk to bats.**

**9.5 A suggested method statement is offered below. This will be presented in more detail with an appropriate time frame at the licence application stage if the planning process is successful.**

#### **10.0 Method Statement.**

**10.1** One of the major influences that bats have become an endangered species is the dramatic loss of suitable roost habitat. Bats are mammals that are unable to build nests or roosting sites themselves, but are reliant on utilising suitable sites instead. Where potential habitat is to be lost or disturbed, it is incumbent for the landowner or others with management interests to reinstate such loss through adequate mitigation.

**10.2** It is proposed that the disturbance to any bats using the property be off set by incorporating improved roosting opportunities in the new design.

**10.3** The elevation of this new roost will be same as the existing roost. This roost will be unobstructed from the sun.

**10.4** The mitigation proposed involves a 25x100mm gap inserted behind the bargeboard at the apex of the south gable end of the stone barn. This will provide access for the bats to the wall plate, a void on top of the stone work and an access point that will be sheltered from bad weather for crevice dwelling bats. Around the eaves of the stone building, access points to the top of the stone wall can be gained via gaps under the bargeboard or via apertures cut into the soffit. During any pointing works rolls of cardboard will be used to retain natural gaps and once the cardboard is removed natural access points will remain.

**10.5** The bargeboard will be routered at the apex to provide an aperture approximately 25mm by 100mm, which is large enough for Pipistrelle's and other crevice dwelling bats to access the wall plate and cavity of the gable end or current roosting positions if the original building is being retained.

**10.6** A vapour permeable roofing membrane shall not be used in the areas that can be accessed by bats. Instead a Type 1F bituminous felt which is less dangerous to bats will be used.

**10.7** It is important that the bat worker meets with the owner and contractors at the site before work begins to go over the schedule of works to ensure that there is complete understanding between the parties and what needs to be achieved in regards to the existing bats roost and future time scales and future mitigation.



**10.8** Works to be completed must be not start before 1st of October and be completed by 31st of April in any given period.

**10.9** A suitably qualified bat ecologist must be retained for the duration of the project and personally supervise key stages of the works as set out in the Licence. Outside the supervised period if any bats are encountered by any contractor during works, work must stop and on-call bat worker summoned. If for any reason they cannot be contacted, advice must be sought from the Natural Resources Wales.

**10.10** A bat worker must be present when fitting any mitigation measures or entry exit points.

**10.11** All designated bat entrances must be maintained and kept free from obstruction and must not be directly illuminated. Illumination below the roost is also prohibited.

**10.12** Post development monitoring will be undertaken in years 1 and 3 following completion.

**10.13** During construction to the roof area no timber treatment should be used in the area designate for bats, unless agreed by NRW.

**10.14** The bat worker must inspect all aspects of the mitigation and take photos before the roof line is sealed up. This will form the basis of the report back to NRW on completion of the project and to sign off the license.

**10.15** The building is now a confirmed bat roost; as such all contractors must conform to the ecological method statement of works before starting on site.

**10.16** Any changes or deviation to the agreed specification must be viewed in advance by the bat ecologist, and time allowed for consultation with NRW if required.

**10.17** Further measure **may also be considered** to attract, and support bats, such as the bolstering hedgerows, using an evening scented plant such as Honey Suckle (Lonicera), which attracts insects for the bats to feed on. A garden pond is another option which also provides insects and offers an opportunity for bats to imbibe and feed around. The erecting of bat boxes in suitable trees.

**10.18** Following completion of works the bat worker will inspect and undertake two post development monitoring surveys in the maternity season following completion of the project and year 3. This to ensure that no detrimental damage has occurred to the roost. These results will be submitted to NRW.

Signed: *R Watkins*

*Date: February 2016*

**Mr. Richard Watkins BSc**

**10 Appendix**

**Additional Site Photo**

**Aerial site photo including Survey Results**

**OS Map**

**Additional Site Photos**

**Wooden Clad barn**



**Stable Block**

**Farm house gable end**



**Common Pipistrelle exit point out of stone barn**

**Stone Barn with Pipistrelle roost at the apex of the gable end.**





**Metal open dutch barns.**

**Farm House**

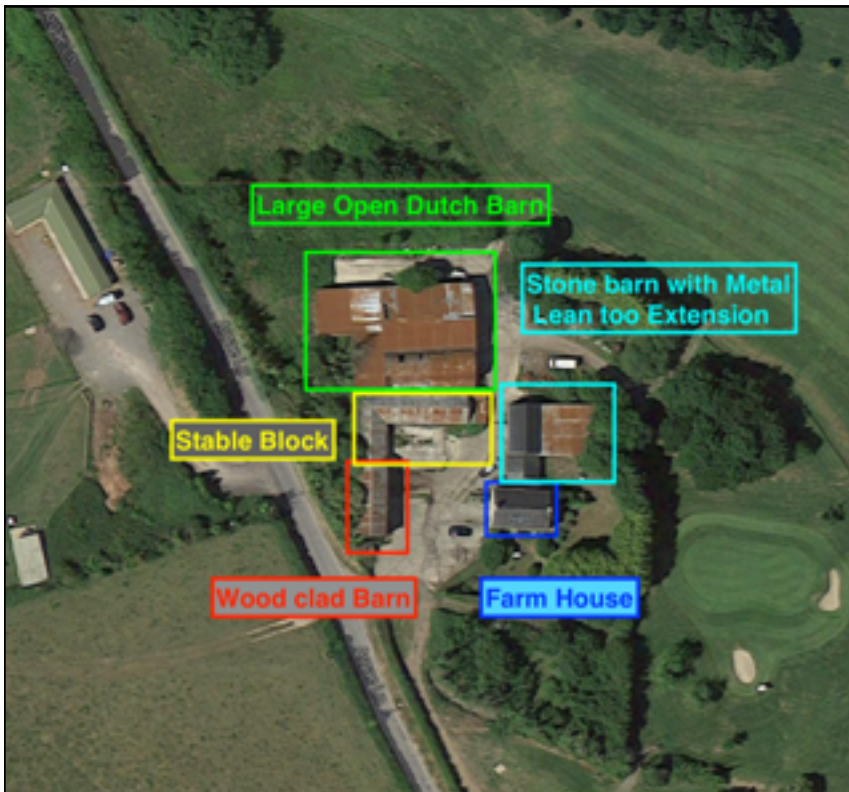


**Aerial Photos**

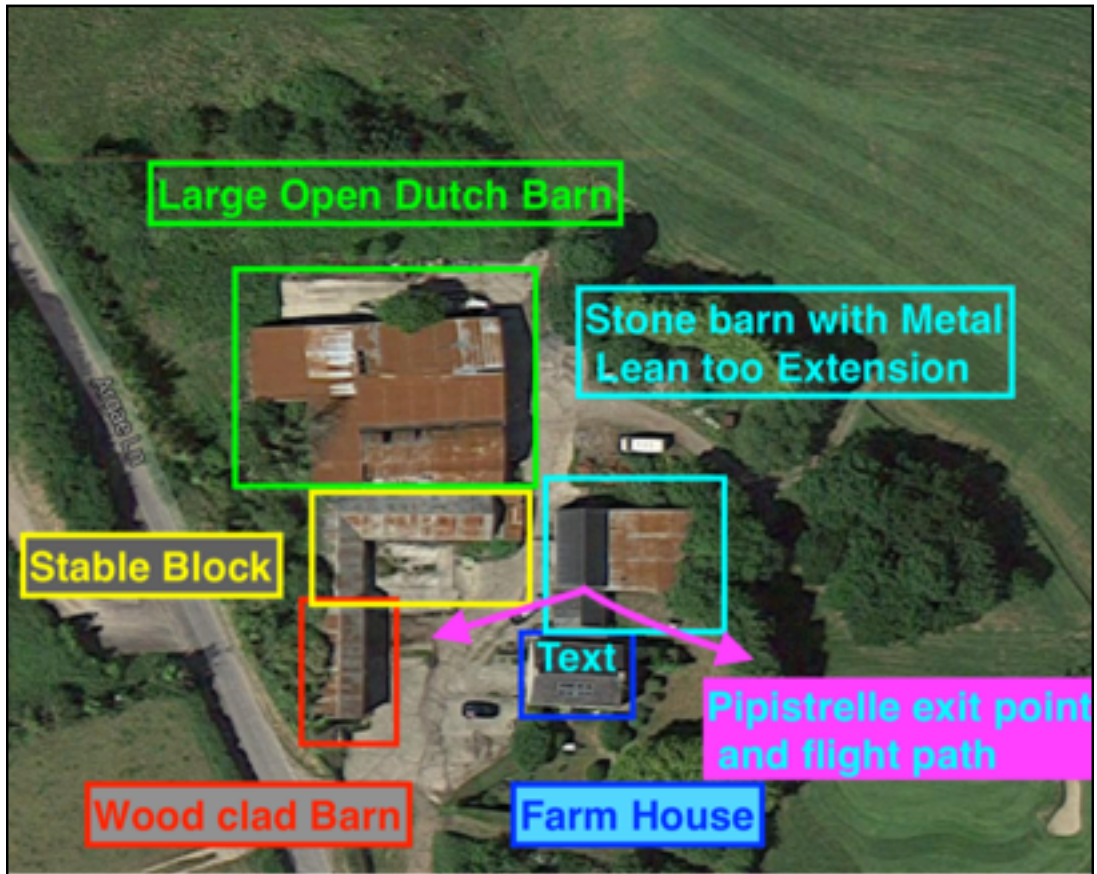


**The Building in its larger environment offering excellent conditions for bats.**

**Site layout**



Survey results



OS map of the area  
(Grid Ref ST13787055)

