

**LITTLE PEN ONN**  
**Scoping Survey for Bats and nesting Birds**  
**August 2014**



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## SUMMARY POINTS:

### Bat & Bird Species:

- *The SEWBReC desktop survey provides 30 records of bats within the 1km search buffer including some regionally important maternity roosts, but no bird records were found. This does not give an accurate representation of the breeding bird population and can mainly be attributed to low observer activity.*
- *The structure of the building under survey is in generally good order and there are a few potential bat access points on the interior. However there are no suitable entry points for nesting birds.*
- *A thorough search; external and internal, of all sections of the building, including all roof voids was undertaken to look for any indication of bat and bird usage.*
- *The building provided evidence of current or past bat use.*
- *The site provided no evidence of nesting birds.*
- *MBS therefore believes that there is a need for further emergence and re-entry survey work to ascertain the degree of bat usage before demolition can proceed.*
- *It is likely that once the additional survey work is completed, suitable mitigation for bats and application for a derogation licence from NRW will be required to demolish the property*

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## 1.0 POSITION OF BUILDING:

### 1.1 OS Map

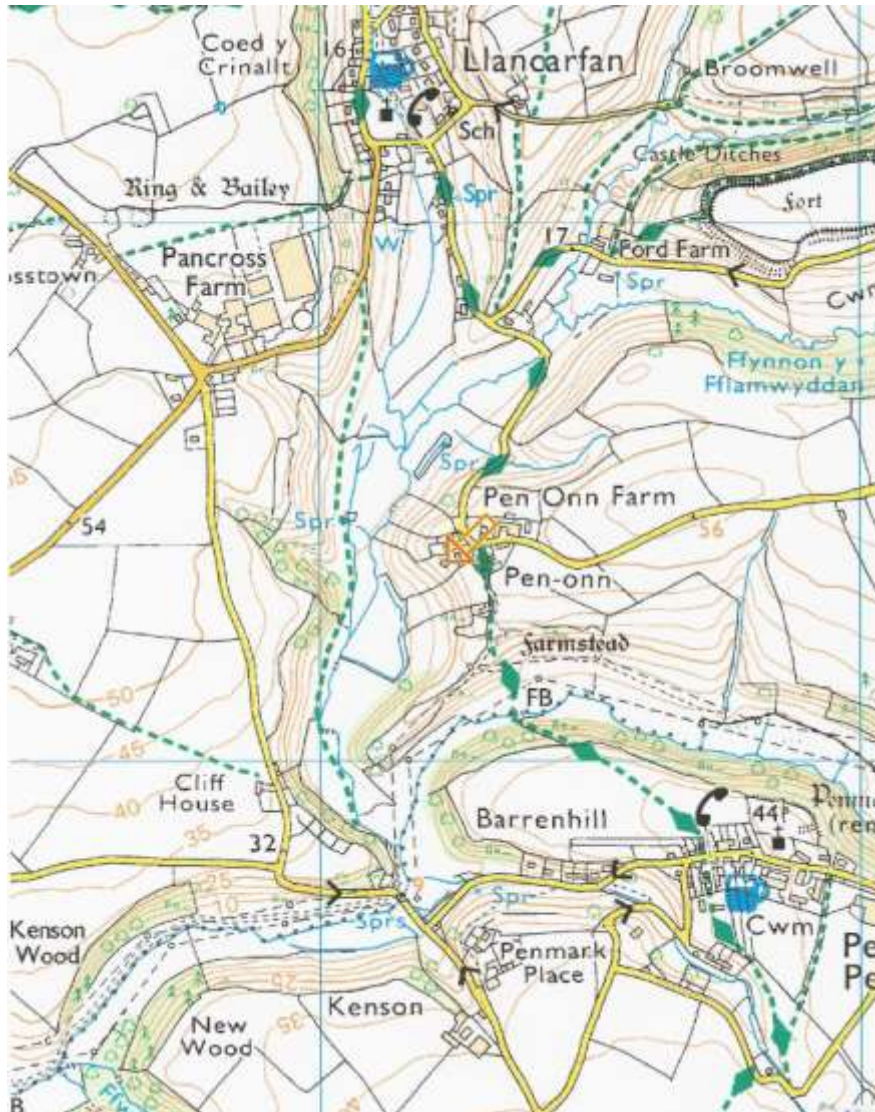


Fig. 1 OS map

### 1.2 Map Reference and Elevation

OS X (Eastings) 305232  
OS Y (Northings) 169367  
Nearest Post Code CF62 3AG  
Lat (WGS84) N51:24:55 (51.415372)  
Long (WGS84) W3:21:51 (-3.364138)  
LR ST052693  
mX -374494  
mY 6661677  
Mapcode GBR HP.Q2HR

Elevation: 32 metres

### 1.3 Aerial Photograph



**Fig. 2 Aerial photograph**

### 2.0 PURPOSE OF SURVEY:

MBS has been approached by the clients Agent/Architect to conduct a Scoping Survey to assess whether bats are using the building and recommend further survey effort if required.

It is the intention of the client to demolish the property and rebuild on site

### 2.1 Bat Species

There are 18 species known to breed in the UK with additional species recorded as migrants or vagrants. All of these species are insect eaters. Although occasionally seen in the day, they are predominantly nocturnal. Most bats are colonial. They roost usually in groups but sometimes singly in trees, buildings, cave systems, mines and other structures that provide the right environmental conditions for them.

Different species of bat have different life-cycle strategies and require different conditions. However, each requires:

- Hibernation roost sites, also known as Hibernacula: places where stable winter temperatures allow a period of winter torpor to conserve energy (e.g. underground sites such as caves and mines; built environments sometimes also offer similar conditions).
- Nursery/Maternity roost sites: where females gather in spring and early summer to give birth and rear their offspring (e.g. roof spaces, including cracks and crevices e.g. within dry stone walls, under roof tiles, between slates and roof felt, etc.). Hollows in mature trees and cliff faces may also be utilized. At the end of the summer these roosts are generally vacated, some times to another site in the same building!

- Individual roost sites for solitary males or small congregations of males that congregate during spring, summer and autumn. Similar habitat to Nursery roosts in chosen. These roosts are far less obvious than Maternal Roosts.
- The same colony may have different roost sites in various structures spread over several kilometres (or all within a single building!).
- An ecologically diverse feeding environment is needed. This environment should be insect rich.
- There is a poorly understood need for social gathering sites at certain times of the year for some or possibly all species (e.g. the autumn mating season and in early spring, males and females may gather together).
- Other roosts such as feeding perches, overnight roosts and transition roosts between summer and winter roost sites also occur. Therefore, even if a major Maternity Roost or Hibernaculum are not present, a site might still be important for a colony for other reasons at other times in the year or in different weather conditions.
- A roost is defined as any structure or place used by bats for shelter and/or protection. Bats frequently re-use roosts from year to year, so the roost is protected at all times, whether the bats are present or not.
- As a colony requires different types of roost at different times of year and for different purposes, all must be retained for the continued survival of the colony.
- Damage to a roost can include chemical treatment using some wood preservatives and also the use of insecticides and pesticides that might affect the bats or their roost.

## 2.2 Legislation for Bat Species

- Planning Authorities have an overarching duty to promote Nature Conservation and to protect and enhance biodiversity under the **Natural Environment and Rural Communities Act 2006**.
- All bat species currently resident in the UK are regarded as either **Species of Conservation Concern** or **Priority Species**.
- All are mentioned in **Appendix 2a or 4a** of the '*EC Habitats and Species Directive*'.
- All are listed in **Appendix 3** of the '*Bonn Convention 1979*'.
- All are listed in **Appendix 2 or 3** of the '*Bern Convention 1982*'.
- All British bat species are protected under the '*Wildlife and Countryside Act 1981*' (as amended). This requires consultation (in Wales) with NRW before carrying out any activities that might harm or disturb them. Amendments to this act in the '*Countryside and Rights of Way Act 2000*' also protect from reckless and/or intentional disturbance or damage.
- All bat species are listed in **Schedule 2** of the '*Conservation (Natural Habitats &c) Regulations 1994*' as modified 2010 which makes it an offence to damage or destroy a roost or to deliberately capture, kill or disturb a bat.
- A conservation license, issued by the **National Assembly for Wales**, is required for developments in Wales, which may compromise the protection afforded to '*European Protected Species*'. The same applies in England with **Natural England** being the relevant authority.
- **Section 5.5.11** of '*Planning Policy Wales 2000*' and its English equivalent **Paragraph 47** of '*PPG9*' also apply.
- A **UKSAP** has been produced for Common Pipistrelle and also for Barbastelle, Lesser Horseshoe and Greater Horseshoe Bats.

### 2.3 Legislation for ‘House Nesting’ Bird Species:

- a. The **Wildlife and Countryside Act 1981** is the primary legislation which protects animals, plants, and certain habitats in the UK.

All birds, their nests and eggs are protected by law and it is thus an offence, with certain exceptions to:

- i. intentionally kill, injure or take any wild bird
- ii. intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built
- iii. intentionally take or destroy the egg of any wild bird
- iv. have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954
- v. have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954
- vi. use traps or similar items to kill, injure or take wild birds
- vii. have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations (see Schedules)
- viii. Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

#### b. Schedule 1 Species:

Avocet	Eagle, White - tailed	Oriole, Golden	Serin
Bee - eater	Falcon, Gyr	Osprey	Shorelark
Bittern	Fieldfare	Owl, Barn	Shrike, Red - backed
Bittern, Little	Firecrest	Owl, Snowy	Spoonbill
Bluethroat	Garganey	Peregrine	Stilt, Black - winged
Brambling	Goldeneye	Petrel, Leach's	Stint, Temminck's
Bunting, Cirl	Godwit, Black - tailed	Phalarope, Red necked	Swan, Bewick's
Bunting, Lapland	Goose, Greylag	Pintail	Swan, Whooper
Bunting, Snow	Goshawk	Plover, Kentish	Tern, Black
Buzzard, Honey	Grebe, Black - necked	Plover, Little Ringed	Tern, Little
Chough	Grebe, Slavonian	Quail	Tern, Roseate
Corncrake	Greenshank	Redstart, Black	Tit, Bearded
Crake, Spotted	Gull, Little	Redwing	Tit, Crested
Crossbill (all species)	Gull, Mediterranean	Rosefinch, Scarlet	Treecreeper Short-toad
Curlew, Stone	Harrier (all species)	Ruff	Warbler, Cetti's
Diver, Black - throated	Heron, Purple	Sandpiper, Green	Warbler, Dartford
Diver, Great Northern	Hobby	Sandpiper, Purple	Warbler, Marsh
Diver, Red - throated	Hoopoe	Sandpiper, Wood	Warbler, Savi's
Dotterel	Kingfisher	Scaup	Whimbrel
Duck, Long - tailed	Kite, Red	Scoter, Common	Woodlark
			Wryneck

#### d. Natural Environment and Rural Communities Act 2006

Protection for nests of certain birds which re-use their nests

(1)Amend the Wildlife and Countryside Act 1981 (c. 69) as follows. (2)In section 1 (protection of wild birds, their nests and eggs), in subsection (1), after paragraph (a) insert— “(aa) takes, damages or destroys the nest and eggs of a wild bird included in schedule ZA1;”. (3)At the beginning of the Schedules inserts—“SCHEDULE ZA1” BIRDS WHICH RE-USE THEIR NESTS:

- i. Eagle, Golden (*Aquila chrysaetos*).
- ii. Eagle, White-tailed (*Haliaeetus albicilla*)
- iii. Osprey *Pandion haliaetus*

**e. BTO and RSPB have jointly listed all UK birds using the criteria Red, Amber, Green based on conservation status.**

**i. RED CRITERIA:** Globally threatened

- Historical population decline in UK during 1800–1995
- Severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969).
- Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period

**ii. AMBER CRITERIA:** Species with unfavourable conservation status in Europe ie (SPEC = Species of European Conservation Concern)

- Historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years
- Moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period
- Moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period
- Moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period
- Rare breeder; 1–300 breeding pairs in UK
- Rare non-breeders; less than 900 individuals
- Localised; at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders
- Internationally important; at least 20% of European breeding or non-breeding population in UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively).

**iii. GREEN LIST:** Species that occur regularly in the UK but do not qualify under any of the above criteria

**f. BTO has produced a list of species recorded as having nested in/on buildings. Many species utilize buildings adventitiously but a small number specialise in utilising buildings regularly. NB\* indicates frequently recorded nesting in buildings & S1 indicates Schedule 1 Species :**

**Red listed:**

- Herring Gull\*
- House Sparrow\*
- Marsh Tit
- Spotted Flycatcher
- Starling\*
- Tree Sparrow
- Willow Tit

**Amber Listed:**

- Barn Swallow\*
- Barn Owl\*S1
- Black Redstart
- Grey Wagtail (near water)
- House Martin\*
- Kestrel

- vii. Mallard (near water)
- viii. Common Redstart
- ix. Stock Dove
- x. Swift\*
- xi. Wheatear

**Green Listed:**

- i. Dipper (near water)
- ii. Feral Pigeon/Rock Dove\*
- iii. Jackdaw\*
- iv. Lesser Black-backed Gull\*
- v. Tawny Owl
- vi. Wren

**3.0 SURVEY METHODOLOGY:**

**3.1 Equipment**

- 1x Petterson D-200 Heterodyne Bat Detector, frequency range 10-120kHz.
- 1x LED Lenser P14
- 1x Petzl Head Torch
- Panasonic Lumix DMC-TZ45 digital camera
- Zeiss Victor FL10x42 binoculars
- Optolyth 100APO Spotting Scope on a Manfrotto 129 Tripod
- Garmin e-Trex Camo GPS & Silva Expedition 4 Compass
- Ridgid See-Snake Micro Inspection Camera Mk II 9.5m Endoscope
- Extendable Ladders
- Google Earth, Streetmap & Multimap OS Landranger 1:25,000 and 1:50,000 scales
- MBS Standardized Survey Paperwork and clipboards

**3.2 SEWBReC Desktop Survey for Bats and Roof Nesting Birds**

- There are 30 records of bats within the 1km search buffer but no bird records.
- The wide range of species recorded demonstrates a diverse and insect-rich habitat.
- The list of records include some significant roosts; some of multiple-species maternity roosts. There is a high level of bat observer activity in the locality.
- The search area does not fall within 10km of a SAC or SSSI that has been designated because of its bats.
- The results of the SEWBReC desktop search are shown in the table below:

Scientific Name	Common name	Number of Records
<i>Eptesicus serotinus</i>	Serotine	7
<i>Nyctalus noctula</i>	Noctule	6
<i>Chiroptera</i>	Unspecified Bat	4
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	3
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	3
<i>Plecotus auritus</i>	Brown Long-eared Bat	2
<i>Myotis nattereri</i>	Natterer's Bat	2
<i>Plecotus</i>	Long-eared	1
<i>Myotis</i>	Unidentified Myotis Bat	1
<i>Pipistrellus</i>	Pipistrelle	1

**Table 1 Interpretation of SEWBReC Data Set for Bats**



### **3.3 Field Survey for Bats and Breeding Birds**

The field survey methodology consisted of a day visit to the site on the 21<sup>st</sup> August to take photographs and to identify potential entry/exit points for bats and to examine these possible exits for lack of spider webs, bat droppings, urine staining, smoothing of crack and joint edges etc. Any evidence of house nesting birds was also sought and noted if present. An internal examination of the interior of the three loft spaces was also undertaken to search for sign of bat or bird usage.

### **3.4 Limitations in survey methodology**

No emergence and re-entry surveys were undertaken as the purpose of this scoping survey was to assess the potential for bat and bird usage to ascertain if there is a need to undertake additional emergence and re-entry surveys for bat usage.

## **4.0 HABITAT POTENTIAL:**

### **4.1 External views of Building to be surveyed**

Little Pen Onn is a relatively modern bungalow of interesting, if somewhat dated 1970's design, situated in the hamlet of Pen Onn on the edge of a hill top above the village of Llancarfan in the Vale of Glamorgan. The property is aligned NE to SW along its long axis. On first examination of the property, it has a tiled roof with no obvious entrance points for bats between any of the tiles along the rear of the property. All ridge tiles also appear to be close fitting. All walls are rendered and painted with no cracks, crevices or holes in the rendering.



**Fig. 2 & 3 Views of the rear of the property including main entrance**

Closer examination of the fascias produced potential access behind the fascia over the area of rough stone wall shown in Fig. 4.



**Fig. 4 & 5 Further views of the rear of the property.**



**Fig. 6 &7 Two views of rear gable & security light for drive**

The uPVC fascias and soffits at the south eastern end of the bungalow appear to be close fitting (see Fig 8 &9), as do the fascias and soffits along the front of the property (Fig. 10

&11). The front entrance to the property is overlooking terracing and a swimming pool. A number of cracks in the terracing walls indicate structural issues.



**Fig. 8 &9 Views of the South Eastern end of the property.**



**Fig. 10 & 11 Eastern half of the rearview of bungalow**

The soffit boxes at the northern end of the building are of a different construction to the rest of the property, consisting of uPVC fascias over wooden soffits with a number of potential access points for bats (see fig. 18&19). There is no access for birds.



**Fig. 12 &13 Swimming Pool and Terraces with views over countryside**



**Fig. 14 &15 Storage shed and walled courtyard by pool. Note structural cracks.**



**Fig. 16 & 17 Courtyard at Northern corner of bungalow.**



**Fig. 18&19 bat access to soffit box**

In addition to the bungalow and terracing to be demolished, there are a number of other structures on site which were beyond the remit of this scoping survey. Photographs of these structures are included to provide a full picture of the nature of the site.

#### 4.2 Additional Structures on site:



**Fig. 20 Building 1**



**Fig. 21 Building 2**



**Fig. 22 Building 3**

### 4.3 Internal views of Building to be surveyed

The bungalow under survey is structurally complex, with three areas of loft space. For ease of description, they shall be labeled:

- i. Loft 1 (north)
- ii. Loft 2 (mid)
- iii. Loft 3 (south)



Loft 1

Loft 2

Loft 3

**Fig.23 Views of three lofts**

**3.3.1 Loft 1** Note that this area has a floor and is used for storage.



**Fig. 23-26 Evidence of light bat usage in Loft 1**

The majority of bat droppings in Loft 1 show characteristics of a small bat species such as one of the pipistrelles. There were approximately twenty droppings scattered around the loft, rather than being concentrated in one roosting area. The entry point was not obvious, with no daylight showing. A single larger dropping (fig. 24) may be from a larger species. There was no evidence of bird usage or any rodent usage.

**3.3.2 Loft 2** Note: This area has no floor boards over the fiberglass insulation.



**Fig. 27-29 Evidence of large rodent**

The middle loft shows extensive evidence of regular occupation by either Rat or possibly Grey Squirrel. The architect indicated to the MBS surveyor that the clients reported the latter. Large rodent droppings were scattered throughout this loft with piles of chewed pipe insulation also present as shown in fig. 29. There was no evidence of bat usage or bird usage.

**3.3.3 Loft 3:** Note: This area has no floor boards or insulation.



**Fig. 30-33 three views of loft 3.**

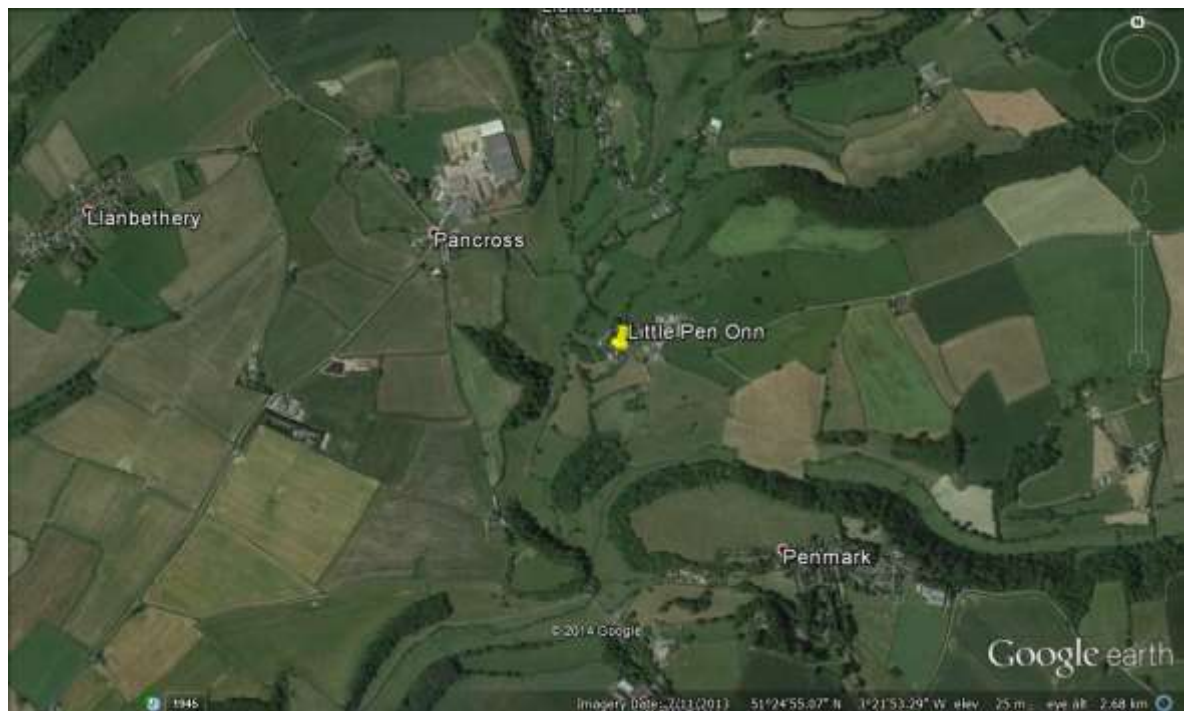
There is no evidence of usage by birds or bats in loft 3 but a small number of mouse droppings were present.

#### **4.4 Surrounding Landscape**

Little Pen Onn Bungalow is located in an elevated position in the hamlet of Pen Onn near the village of Llancarfan. The property sits within a large garden which is bordered with mature shrubs and trees. The surrounding countryside is rural; comprising a patchwork of predominantly arable farmland with some grazing for dairy cattle. There are a number of stream valleys nearby, each with a corresponding riparian corridor. The surrounding



countryside is dotted with small areas of urbanisation and some areas of woodland. A network of enclosed lanes and hedgerows connects the site to the wider landscape and provides bat species with ample foraging habitat.



**Fig. 34 Little Pen Onn in the surrounding landscape**



**Fig. 35-36 Views from site across surrounding countryside**

## 5.0 SUMMARY OF RESULTS:

- i. There was evidence of bat usage of Loft 1. A small number of bat droppings showing characteristics of a small bat such as one of the pipistrelle species but no evidence of bat usage
- ii. There was no evidence of bat usage of Loft 2 but extensive evidence of usage by a large rodent, either Grey Squirrel or Rat.
- iii. There was

## 6.0 CONCLUSION:

- i. The building under survey is a bat roost for at least one species of bat.
- ii. Merlin Bio-Surveys recommends further survey work comprising an emergence and re-entry survey within the appropriate period to ascertain the extent of the current bat usage of the property. This has been discussed with the County Borough Ecologist.

## 7.0 REFERENCES:

### 7.1 Bat Information

- Bat Surveys; Good Practice Guidelines, **Editorial Panel**, Bat Conservation Trust 2007, ISBN 978-1-872745-99-2
- Bat Workers Manual, **Ed: T. Mitchell-Jones & A. P. McLeish**, JNCC 2001
- Bat Mitigation Guidelines **A.J. Mitchell-Jones**, English Nature 2004, ISBN 1 85716 781 3
- Providing Bat Roosting Places, **Phil Richardson**, National Trust Guidance Note No.: Bat 17, Sept 2003
- The Lesser Horseshoe Bat Conservation Handbook, **H.W.Schofield**, Vincent Wildlife Trust 2008 ISBN 978 0 946081 52 3
- Managing Landscapes for Greater Horseshoe Bat, **English Nature** 2000, ISBN 1 85716 536 5
- A Guide to the Identification of Pipistrelle Bats, **Henry Schofield**, unpublished report 2002
- The Bat Detective, **Brian Briggs & David King**, Stag Electronics Paperback & CD.
- A Guide to Bats of Britain and Europe, **Wilfred Schober & Eckard Grimberger**, Consultant Editor: **Dr. Robert Stebbings**, Hamlyn Publishing Group Ltd. ISBN 0 600 5642 4X
- Biodiversity: UK Steering Group Report Vol.2: Action Plans. Species Action Plans: Pipistrelle, Greater Horseshoe Bat, **UK Gov. (DEFRA)**, 1995, HSMO.
- Bats and Lighting in the UK: Bats in the Built Environment Series **BCT** Guidance for Bat Workers.
- Bats Buildings and Development, **Brecon Beacons National Park**. Planning Advice Note 20, October 2007.
- Ten 'Handy Hints' for obtaining a bat mitigation licence at first submission, **Natural England**, Guidance Note WML-G06 (09/08)
- Bats in Houses, **A.M. Hutson**, Reprinted 1993, Bat Conservation Trust, ISBN 1-872745-10-5

- Bats in Roofs, A guide for Building Professionals, CCW 2004, ISBN 1-861169-121-1
- Giving Bats a Good Innings, **Andrew Cowan**, A&E Arbour Ecology, Guidance Notes, Nov 2002
- Identification of Arthropod Fragments in Bat Droppings, **C. Shiel, C. McAney, C. Sullivan & J. Fairley**, The Mammal Society Occasional Publication 17: 1997 ISBN 0-906282-33-0

## 7.2 Legislation and Planning Guidance

### 7.2.1 Web Addresses for Legislation Texts

- NERC Act 2006 [http:// www.defra.gov.uk/rural/ruraldelivery/bill/](http://www.defra.gov.uk/rural/ruraldelivery/bill/)
- Conservation (Natural Habitats & c.) Regulations 1994: [http://www.hmso.gov.uk/si/si1994/Uksi\\_19942716\\_en\\_1.htm](http://www.hmso.gov.uk/si/si1994/Uksi_19942716_en_1.htm)
- Countryside & Rights of Way Act 2000: [http:// www.legislation.hmso.gov.uk/acts/acts2000/20000037.htm](http://www.legislation.hmso.gov.uk/acts/acts2000/20000037.htm)
- Habitats Directive: [http:// www.europa.eu.int/smartapi/cgi/sga\\_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=31992L0043&model=guichett](http://www.europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=en&numdoc=31992L0043&model=guichett)
- Bern Convention: [http:// www.nature.coe.int/english/cadres/bern.htm](http://www.nature.coe.int/english/cadres/bern.htm)
- Wildlife & Countryside Act 1981: [http:// www.incc.gov.uk/page-3614](http://www.incc.gov.uk/page-3614)

## 8.0 SUITABILITY OF MBS SURVEYORS:

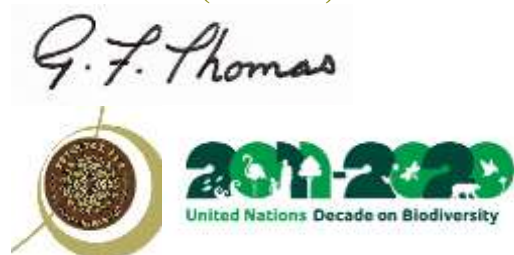
### 1. Geri F. Thomas B.Ed. Cert Ed.

- 14+ years' experience of Bat & Barn Owl Surveys and other surveys e.g. Tree and Hedgerow Surveys, Phase 1 Habitat Surveys, Ornithological Surveys, Herptile Surveys, Terrestrial Invert surveys, SoCC Surveys with particular reference to Dormouse, Otter and Water Vole.
- Retired County Bird Recorder for East Glamorgan.
- Director of Merlin Bio-Surveys.
- Director of SEWBReC.
- Chair of the Mid-Valleys SINC Review Panel & Chair of the South East Wales Local Wildlife Sites Working Group.
- Chair of Valleys Bat Group.
- Experience of Hibernation and Maternity Roost Monitoring.
- Experience of Roost Construction and Enhancement.
- Series of inoculations against ELV up to date. Bat Carer.
- NRW Bat License to disturb and handle all UK Species except Horseshoe sp. Disturb only.
- Additional schedule 1 licenses unrelated to this survey.
- Member of many local and national conservation organizations.

### 2. Sarah L. Thomas

- Administrative and Field Assistant.
- Trainee Bat Worker with 7 years' experience of Emergence & Re-entry surveys with Merlin Bio-Surveys.
- Member of Valleys Bat Group.
- Experience of Bat Survey Report writing and data analysis.
- Series of inoculations against ELV up to date. Bat Carer.

### Geri Thomas (Director)



APPENDIX:

i. Site Map:

