



**48 Derwen Road, Alltwen,
Neath Port Talbot, SA8 3EU**

Bat Survey Report for Mr R. & Mrs C. Kieft



***A European Protected Species Licence will not be required
for this development to be undertaken***

**Government and CIEEM guidelines were followed in
relation to the COVID-19 pandemic**

Report type	Bat Survey Report
Report reference	IG202248DerwenRoad
Site	48 Derwen Road, Alltwen, Neath Port Talbot, SA8 3EU
Grid reference	SN 71999 02998
Client	Mr R. & Mrs C. Kieft
Date(s)/time(s)/ type(s) of survey(s)	Scoping survey: 16 th February 2022
Surveyor details	Scoping survey: Mr Glyn Lloyd-Jones, Natural Resources Wales Licence number S088445/1
Architect	HGA Chartered Architects

Version	Status	Changes	Name	Position	Date
1	Draft	Sent for review on 20/02/22	Ceri Daugherty	Author	18/02/22

	Name	Position	Date
Reviewed by	Ceri Daugherty	Author	20/02/2022
Approved by	Glyn Lloyd-Jones	Director	21/02/2022
Sent to Client	Glyn Lloyd-Jones	Director	22/02/2022

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Executive summary

- ✧ 48 Derwen Road (the property) is a modern north-west facing detached, predominantly two storey (there is a single storey rear section) dwelling which is subject to proposed plans for alterations and extension. It is constructed of brick walls with bitumastic felt lined slate roofs and is in very good condition, well maintained, and tightly sealed. The walls are in very good condition with no cracks or crevices while the uPVC soffits/fascias/barge boards are in excellent condition, tight to the walls and with no exploitable gaps. In addition, the uPVC framed windows and doors are all intact and remain closed when not in use as is the garage door. The roofs are also in very good condition with no slipped/damaged/missing slates, no raised ridge tiles, no gaps under the flashing, and no potentially exploitable gaps anywhere. Within the property, the bitumastic felt lining within the loft spaces (main loft and separate smaller loft) are in very good condition with no gaps other than one area in the main loft where it has been cut, but this has not created any potentially exploitable gaps. No natural light enters the spaces, the timbers within have only undisturbed cobwebs on them, and the surfaces and items (the spaces are used for storage) within have only dust on them. **No live or dead bats or their signs (e.g., droppings, urine stains or smells) were found anywhere either externally or internally.**
- ✧ On 16th February 2022, I&G Ecological Consulting Ltd undertook a survey of the property. This report confirms the findings of that survey, completed in accordance with current best practice (Collins, J. (Ed.) 2016), and current government and CIEEM guidelines in relation to the COVID-19 pandemic. It was conducted by an experienced, licensed ecologist and access was available to all parts of the site.
- ✧ The property is located in a residential area on the southern side of the village of Alltwen, 1km south of the small town of Pontardawe, and 10km north-east of the city of Swansea. It is within close proximity to favourable bat habitat but is not **within 2km of any sites which are designated for their bat interest.**
- ✧ Using the results obtained from the desk study and scoping survey, it is considered that the property has **negligible** potential to support roosting bats, and a **negligible** risk of bats using the features present. **There are currently no bats using the property.** It therefore receives no ecological protection under wildlife legislation, and there are no ecological constraints to the proposed works.
- ✧ **No evidence of nesting birds** was found and **no signs of owl activity** were discovered.
- ✧ Enhancement measures will be required as part of the development and recommendations have been made as follows:
 - ✧ **Recommendation 1:** 1 x Harlech Woodstone (or similar) Bat Box to be affixed to the side (south-west) elevation of the property. To be affixed in a sheltered, elevated (2–7m and ideally 4m) position away from artificial light and potential predation, and ideally not above any windows or doors.

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1. Introduction

1.1 Scope and purpose of survey

1.1.1 Any sign of use of a site by bats is enough to confirm that the space has ‘bat interest’ and is enough to confirm the importance of the location to bat species. All species, as well as their resting places, are protected by law and the site is protected even when bats are not present. See appendix 1 for an introduction to bat surveys, including the aims of the scoping survey, appendix 2 for an overview of the legislation, and appendix 3 for information on roost types and survey timings. Appendix 4 lists all surveyors who undertake work for I&G Ecological Consulting Ltd and includes their experience.

1.1.2 This report confirms the results of, and conclusions and recommendations from, the surveys undertaken. It aims to provide the local planning authority with sufficient information to enable a full assessment of the potential ecological impacts of the proposed development. The CIEEM Guidelines for Ecological Report Writing (2017) state that it is important that the structure and content of a report should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. This report has therefore been written in line with these guidelines.

1.1.3 For the purposes of this survey report, the site boundary is defined as the building(s) and surfaces within the overall site footprint.

1.2 Site characteristics and proposed works

1.2.1 48 Derwen Road (the property) is located in a residential area on the southern side of the village of Alltwn, 1km south of the small town of Pontardawe, and 10km north-east of the city of Swansea. It is within close proximity to favourable bat habitat with the properties having large mature gardens and there being many small woodlands – including ancient woodland – within 2km in all directions. There are also small agricultural fields to the west, south, and east which while predominantly semi-improved and improved do have mature hedgerows that provide good connectivity. In addition, there are more unimproved areas such as the lowland raised bog and marshy grassland of Fforest Goch Bog. In relation to watercourses, the partially wooded river corridor of the Afon Tawe is 230m to the north-west, and the Swansea Canal is 720m to the south-west and 1km to the north.



1.2.2 The property is subject to proposed plans for alterations and extension. Figure 1 is an aerial view of the property, figure 2 is of the wider environment around the property, and figure 3 is a location and block plan. Additional plan drawings are included within appendix 5.

Figure 1: Aerial view of the property which is outlined in red (from Apple® Maps)



Figure 2 (above): Map showing the wider environment.
The property is indicated by a blue dot (from Apple® Maps)

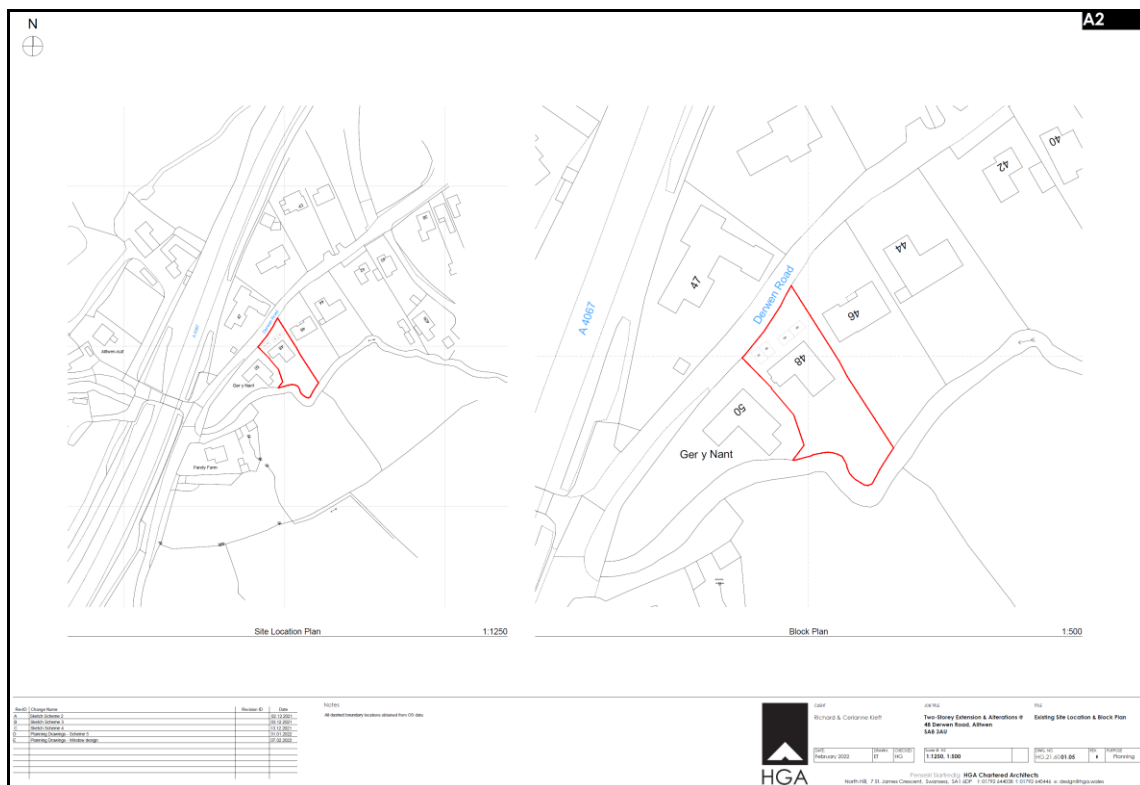


Figure 3: Location and block plan (provided by the architect)

2. Desk study methods and results

2.1 Methods

2.1.1 A 2km search area is used which covers the predicted zone of influence of the proposed development. Multi-Agency Geographic Information for the Countryside (MAGIC) and Lle are both used to establish the proximity of National and International Statutory Designations, particularly in relation to designations for bat interest. Species searches are also conducted through the Local Records Centre (LRC) where appropriate. An online search of planning applications at the property is undertaken to understand its planning history, especially relating to bats.

2.2 Results

2.2.1 The property is not within or adjacent to any sites which are designated for their ecological significance. Within 2km, 1km to the north is Cwm Du Glen and Glanrhyd Plantation Local Nature Reserve and 1.7km to the east is Fforest Goch Bog Site of Special Scientific Interest; neither of which are designated for their bat interest. Within 2km there are also 37 areas of Ancient Semi Natural Woodland (ASNW), 16 Restored Ancient Woodland Sites, one Plantation on Ancient Woodland Site, and three Ancient Woodland Sites of Unknown Classification; the closest being an ASNW 240m to the south-east. There is one Wildlife Trust Site (Craig Cilhendre Woods) within 2km (approximately 1km to the south) but there are no National Nature Reserves within 2km of the property. Information on Sites of Importance for Nature Conservation/Local Wildlife Sites within Neath Port Talbot can only be accessed through a formal LRC search (see 2.2.2).

2.2.2 A formal LRC data search was not undertaken due to the small size, low predicted impact, and nature of the development. The overall impact on biodiversity is likely to be localised and of low significance and current proposals suggest no land will be lost or linear features severed. It is considered very unlikely that the development will have any impact outside the footprint of the works. The data search results would be considered unlikely to impact on the decision-making process as appropriate well-staffed surveys were undertaken at optimum times of year. This approach is consistent with the CIEEM Guidelines for Accessing and Using Biodiversity Data (2020). **An online search found records for the following bat species within 2km: Common pipistrelle (*Pipistrellus pipistrellus*) and Soprano pipistrelle (*Pipistrellus pygmaeus*).**

2.2.3 An online search found no previous planning applications for the property.

3. Field survey methods and results

3.1 Methods

3.1.1 A Preliminary Roost Assessment (PRA) was undertaken (adhering to government and CIEEM guidelines on the COVID-19 pandemic) on 16th February 2022 to identify Potential Roost Features (PRF). Details of the equipment used by I&G Ecological Consulting Ltd can be found in appendix 1. The survey was undertaken by Glyn Lloyd-Jones.

3.1.2 In relation to survey limitations, many of the UK species of bat are crevice dwelling, and bats or signs of bats can be difficult to find within a building. In addition, there may be areas that are inaccessible to the surveyor. Externally, sufficient access was available to

enable a thorough survey from ground level while internally, access was available to all areas. As a result, using the equipment available to them, all accessible areas were thoroughly surveyed to maximise effectiveness. In addition, weather conditions were good.

3.1.3 Due to the findings of the PRA, it was not considered that any activity surveys – or deployment of an Anabat – were necessary.

3.2 Survey results

3.2.1 The PRA found that the property is a modern north-west facing detached predominantly two storey (there is a single storey rear section) dwelling. It is constructed of brick walls with bitumastic felt lined slate roofs and is in very good condition, well maintained, and tightly sealed. The walls are in very good condition with no cracks or crevices while the uPVC soffits/fascias/barge boards are in excellent condition, tightly bonded to the walls and with no exploitable gaps. In addition, the uPVC framed windows and doors are all intact and remain closed when not in use as is the garage door. The roofs are also in very good condition with no slipped/damaged/missing slates, no raised ridge tiles, no gaps under the flashing, and no potentially exploitable gaps anywhere. Within the property, the bitumastic felt lining within the loft spaces (main loft and separate smaller loft) are in very good condition with no gaps other than one area in the main loft where it has been cut, but this has not created any potentially exploitable gaps. No natural light enters the spaces, the timbers within have only undisturbed cobwebs on them, and the surfaces and items (the spaces are used for storage) within have only dust on them. **No live or dead bats or their signs (e.g., droppings, urine stains or smells) were found anywhere either externally or internally.** As a result of the findings, it is considered that the property has **negligible** potential to support roosting bats and a **negligible** risk of bats using the features present, and **no evidence of the presence of bats was found either externally or internally.** Site survey images are included in appendix 6.

3.2.2 **No evidence of nesting birds** was found and **no signs of owl activity** were discovered.

4. Conclusions and recommendations

4.1 Conclusions

4.1.1 Using the findings of the desk study and field survey, it is **concluded that the property is located within close proximity to favourable bat habitat but is not within 2km of any site which is designated for its bat interest. It has negligible potential to support bats and bats are not currently using any part of the property. It is therefore considered that proposed development will not have a negative impact upon the favourable conservation status of the bat species using the area.** The localised scale of the proposed development also suggests that the impact on the local ecology is likely to be low, and it is anticipated that the proposed enhancements detailed in 4.2 will result in a positive impact and net gain for biodiversity.

4.1.2 There are not considered to be any survey limitations which would impact upon the findings and recommendations of this report.

4.2 Recommendations

4.2.1 Enhancement measures will be required to help meet obligations within the Environment (Wales) Act 2016 and Planning Policy Wales 11th Edition (February 2021); as well as to compensate for the loss of roosting opportunity. Excellent long-term enhancement can be delivered by implementing measures outlined within appendix 7.

Proposed enhancements are as follows:

- ✦ **Recommendation 1:** 1 x Harlech Woodstone (or similar) Bat Box to be affixed to the side (south-west) elevation of the property. To be affixed in a sheltered, elevated (2–7m and ideally 4m) position away from artificial light and potential predation, and ideally not above any windows or doors.

4.2.2 This ecological **report will remain valid** for a period of 18–24 months from the date of the last survey **i.e. until at least 16/08/2023 (CIEEM, 2019)**. A further scoping survey may be required to update site information if planning is not obtained or works do not commence within that period, especially if the property to be developed has fallen into disrepair.

5. Outline method statement for planning

5.1 Outline method statement for planning

5.1.1 **No bats** were detected utilising the property and there are no restrictions on the timing of the work in relation to bats. Where proposed plans involve works to the roof, extra care will be taken at wall tops and when stripping any part of the roof. All materials are to be lifted and not slid as despite a negative survey bats can still be found in these areas. **If bats are found at any stage, all works will stop and a qualified ecologist called for advice and guidance.** As no bats or bat signs were detected at the property, no monitoring is proposed (Mitchell-Jones, 2004 – figure 4, page 39).

5.1.2 Current **lighting** plans for the site are not known but should any be proposed they must ensure that exterior lighting is kept to a minimum to prevent any adverse impacts on bats. In particular, external lighting around the recommended enhancement must be carefully designed to avoid any impact upon bats (Institution of Lighting Professionals, 2018). If an external lighting scheme is proposed for this application a plan will be produced that demonstrates compliance with the lighting principles outlined within the guidance referenced above.

5.1.3 Where **external lighting** is necessary, this should utilise a number of key design points to limit any impact, as follows: Low level lighting pointed towards the ground; LED bulbs to be used of 2700 Kelvin (*p.18 of the lighting guidelines referenced above*) and below (warm white light and not daylight); use of light shields and hoods to direct the light downwards and prevent vertical and horizontal light spill; and use of passive infrared (PIR) motion sensors on timers to ensure lights only come on when necessary.

Appendix 1: An introduction to bat surveys

A note on bat surveys

- ✧ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). Bats are the only mammal capable of true flight. They are notoriously difficult to survey for as they cannot be heard unaided and are difficult to see due to their nocturnal behaviour. They are also small and can live in the smallest of crevices, so may often be overlooked because of their size.
- ✧ Wales has relatively high numbers of most of the species that occur in Britain; the rural landscape with its abundance of wooded areas, river valleys and hedgerows means that buildings are commonly used as roosting sites by bats. This is particularly the case for older buildings (typically with stone walls and slate roofs) that are located close to good feeding areas, on the edge of settlements, or that are rarely disturbed.
- ✧ Bats may also change their resting and feeding places regularly throughout the year, depending on the time of year and weather conditions. Thus, other signs of use are also looked for such as their droppings or signs of feeding.
- ✧ To gain an understanding as to how bats are using a building, a survey may also involve dusk and/or dawn observations which may need to be repeated at different times throughout the year.
- ✧ The search buffers implemented as part of the survey are considered to more than adequately cover the predicted zone of influence of the proposed development. The reasons for the site designations have also been considered when discussing potential impacts on the biodiversity of these sites. If the sites are designated for their bat or bird interest, this will be mentioned.
- ✧ Survey methodologies are implemented as appropriate, based on the surveyors' assessment of the site features and with particular reference to the advice in Bat Surveys for Professional Ecologists: Good practice guidelines, 3rd edition (Collins, J. (Ed.), 2016) & The Bat Workers' Manual, 3rd edition. (Mitchell-Jones, A.J., & McLeish, A.P. (Ed.), 2004). Reports are written with reference to the CIEEM (2015) Guidelines as well as BS42020.
- ✧ A PRA visit (scoping survey) is used to identify all potential access and egress points for bats in the building, and to identify crevices and possible dwelling places. Internal and external inspections are aided using powerful binoculars and close-focussing monoculars, as well as ladders, high powered Cree flashlights and head-torches. We also have thermal imaging cameras and night vision devices at our disposal as well as full spectrum photographic cameras which can photograph a bat in complete darkness with an infrared flash. Exploitable crevices are also endoscoped with either a hand-held digital scope or a smart phone compatible scope. Digital thermometers and hygrometers are also at our disposal.
- ✧ The survey consists of a visual inspection of the interior and exterior of the building for evidence of bat use, including droppings, smells, feeding remains, staining, and scratching around roost exit and entry points. Potential features conducive (but not necessarily predictive) to bat presence include voids in the stonework, wooden beams, any associated rot holes, gaps behind soffits or within walls and fascia boards, raised tiles, any raised render, and any sufficiently large crevices. The general condition of the building is

examined, including the structure of the roof, condition of walls, the potential for disturbance, and the position of the building in relation to connectivity to good bat habitat.

✧ If positive bat signs are discovered, or the construction style suggests cryptic bats *may* be present, an Anabat SDII or Anabat Express is deployed within the space of the building surveyed. These commonly record all bats from within and to the exterior of a building as they have extremely sensitive microphones so clusters of calls or high frequency of calls over short periods that are repeated (not just a vocal (Chatty) bat passing the microphone once on a foraging /socialising expedition) may indicate a presence within the building. Supporting evidence is then needed to make a decision, such as bats seen during surveys, droppings and feeding signs as well as building suitability for a given species. For example, we have had clear sonograms for Serotine bats (*Eptesicus serotinus*) from a loft space deployed recorder where no gaps existed anywhere and no droppings from serotines were present. These large bats must have been present elsewhere on site or use the site for foraging.

✧ The outcomes have been used to specify whether further surveys are required, or to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed works.

✧ If positive signs of bat activity are found then it will be necessary to assess whether a licence is needed at all (damage and disturbance to the roost and harm to bats can be avoided through thoughtful and planned working practices), or whether a licence is recommended as damage, disturbance or harm are unlikely to be avoided.

Appendix 2: Overview of the legislation

- ✧ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- ✧ There is a risk that works could result in the damage or destruction of a bat roost or roosts, the disturbance of bats, and the potential killing or injury of bats, sufficient survey effort (where indicated) helps to minimise this risk.
- ✧ All wild birds, their nests, eggs, and dependent young are afforded protection under the Wildlife and Countryside Act 1981 (as amended), with the bird nesting season generally from 1st March until 31st August.

Technical Advice Note (TAN) 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':

- ✧ Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long- term perspective;
- ✧ Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
- ✧ Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
- ✧ Ensure that appropriate weight is attached to designated sites of international, national and local importance;
- ✧ Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- ✧ Ensure that all material considerations are taken into account, and decisions are informed by adequate information about the potential effects of development on nature conservation;
- ✧ Ensure that the range and population of protected species is sustained;
- ✧ Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.

✧ Bats are listed under Schedule 5 and 6 of the Wildlife and Countryside Act 1981 and protected under sections 9 and 11 (as amended by the Countryside and Rights of Way (CROW) Act 2000).

✧ The Environmental Damage (Prevention & Remediation) Regulations 2009 – A protected species and its habitat are protected under this legislation as well as others.

✧ The Conservation of Habitats and Species Regulations 2017 – (regulation 43) fully protects all bats and their roosts, making it **an offence to deliberately kill, injure or capture** (take) bats; *to deliberately disturb bats; damage or destroy bat roosts* or resting places (this is considered an ‘Absolute Offence’ as damage and destruction may detrimentally effect the Continuous Ecological Functionality of that roost/resting place); possess or transport a bat or any part of a bat; sell (or offer for sale) or exchange bats or parts of bats.

✧ For any offence to occur a derogation or **European Protected Species (EPS) licence** must be gained from Natural Resources Wales. To gain an EPS Licence, they must be satisfied that;

i. granting the licence would not be detrimental to the Favourable Conservation Status (FCS) of the populations of species concerned within its natural range;

ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment; and

iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce, the need for any adverse impact to the species.

Bats are also protected by;

✧ Appendix III of the Bern Convention.

✧ Appendix II of the Bonn Convention (including the Convention's Agreement on the conservation of Bats in Europe).

✧ Natural Environment and Rural Communities Act 2006 (in England).

✧ The Environment (Wales) Act 2016: specifically, Sections 6 (*places a duty upon Local Authorities to enhance biodiversity and the **resilience of ecosystems***) and 7 (*Creating local biodiversity lists and a duty to take steps to **maintain and enhance biodiversity***).

✧ All bats are listed in Annex IV of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and are therefore designated as *European Protected Species*. These *protected* species are afforded enhanced protection and more stringent licensing provisions than those protected by the Wildlife and Countryside Act (WACA) alone. There are also biodiversity obligations to be met within the Well-being of Future Generations (Wales) Act 2015 [WFG] and the seven well-being goals which include an emphasis on socio-economic resilience as well as protecting culture, heritage and the Welsh language. One Act does not take precedence over the other.

✧ Planning Policy Wales (11th Ed.) also emphasises the importance of ensuring – wherever possible – a net gain to biodiversity from any development. Future Wales (The National Plan 2040) highlights in the 10th of 11 outcomes that the aim is for a “Wales where people live...in places with biodiverse, resilient and connected ecosystems”. Highlighting the importance for creating and enhancing resilient and diverse eco-systems.

Appendix 3: Types of bat roost and survey timings

As the mitigation guidelines state: The presence of a significant (important) bat roost... can normally be determined on a single visit at any time of year; providing that the entire structure is accessible and that any signs of bat activity have not been removed by others. The table below shows the applicability of survey methods. The table has been reproduced from Bat Mitigation Guidelines (table 5.2) (2004).

Season	Roost type	Inspection	Bat detectors and emergence counts
Spring (Mar – May)	Building	Suitable (signs, perhaps bats)	Limited, weather dependent
	Trees	Difficult (best for signs before leaves appear)	Very limited, weather dependent
	Underground	Suitable (signs only)	Static detectors may be useful
Summer (June – August)	Building	Suitable (signs and bats)	Suitable
	Trees	Difficult	Limited: use sunrise survey
	Underground	Suitable (signs only)	Rarely useful
Autumn (September – November)	Building	Suitable (signs and bats)	Limited, weather dependent
	Trees	Difficult	Rather limited, weather dependent; use sunrise survey?
	Underground	Suitable (signs, perhaps bats)	Static detectors may be useful
Winter (December – February)	Building	Suitable (signs, perhaps bats)	Rarely useful
	Trees	Difficult (best for signs after leaves have gone)	Rarely useful
	Underground	Suitable (signs and bats)	Static detectors may be useful

The table below shows the recommended survey timings and is reproduced from the Good Practice Guidelines (table 7.1) (3rd Edition, 2016). This is for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of the surveys between May and August ^b	May to September ^a with at least two of the surveys between May and August ^b

^a September surveys are both weather and location dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

The table below shows the recommended minimum number of surveys to be carried out according to roost potential. It is reproduced from the Good Practice Guidelines (table 7.3) (3rd Edition, 2016).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry ^a (structures). No further surveys required (trees)	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn ^b

^aStructures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (as noted in section 5.2.9 of the guidelines). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see table 7.1 above) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Roosts required by bats

Hibernation sites (hibernacula). Sheltered areas with relatively stable winter temperatures.

Underground cavities, caves, mines, cellars, hollow trees and cavities and crevices in buildings or similar structures are examples.

Nursery roosts (maternity roosts). Places usually warm, where adult females of a colony gather to give birth and rear their young. These are often traditional sites with a history of such use and include roof voids, walls, soffit boxes, hollows and cracks/splits in trees and cavities in bridges and similar structures.

Night roosts/feeding perches. Places where bats may gather at night away from the day roost after initial feeding. These places are often quite exposed and may not be suitable for day roosting. They are often recognisable by deposits of droppings and insect remains.

Intermediate/dispersal roosts. Sites where small numbers of bats may gather after hibernation before taking up residence in the nursery roost. Bats may return to these sites after dispersal from the nursery roost and before entering hibernation.

Mating/male roosts. Places that an individual male may defend from other males and to which he will attempt to lure females. These will include small holes/cavities in trees, stonework, caves, mines, and buildings.

Access, size of roost space and structure

- *Crevise-dwelling bats* (such as Soprano pipistrelles) can crawl into roosts via small gaps in the range of 15–20mm high by 20–50mm wide. The roost area should maintain a crevice of this approximate size gap that the bats can roost between. The area this roost provision covers can be small but about 1m² would be useful for summer nursery roosts. The height of entry can be from 2–7m.
- *Roof-void dwelling bats* require similar dimensions to access the roost but typically need timber joists or beams on which to roost. The height of entry can be from 2–7m.
- *Bats needing a flying area* require the same access dimension as mentioned above, 15–20mm (h) x 20–50mm (w) situated over 2m in height. The roosting area should not be trussed, to allow flight, and should ideally (wherever possible) be of similar dimensions to the roost being replaced.
- *Horseshoe bats* need a larger access so that they can fly (instead of crawl) directly into the roost. Lesser horseshoe bats need an access of 300mm (w) x 200mm (h), while greater horseshoe bats need 400mm (w) x 300mm (h). As above, the roosting area should not be trussed, to allow flight, and should again (where possible) be of similar dimensions to the roost being replaced.

Appendix 4: List of surveyors

Surveyor	Licence	Experience/background
Mr Glyn Lloyd-Jones	Bats	Glyn has assisted/worked with many other licensed bat surveyors as well as local bat groups over the past years. He possesses both a Bachelor's (with honours) and Master's degree in the biological sciences and is a chartered member of the Royal Society of Biology. He has worked for EAW, NRW and CCW for over a decade and has gained significant experience of working for regulators and conservation bodies. He has also held a bat licence in England & Wales since 2013 and has undertaken many badger, tree and herpetofaunal surveys. Natural Resources Wales Licence number S088445/1. I&G were shortlisted for a roost award by BCT in 2021.
Mr Iestyn Evans	Bats	Iestyn has extensive experience in conservation, habitat improvement and management and has also worked with and assisted other licensed bat workers for many years. He has also helped with local bat group surveys and assisted in data gathering for the Beacon for Bats project undertaken by the Vincent Wildlife Trust. Iestyn has also assisted the Glamorgan Bat Group and will also help supervise and mentor (if needed) members of the newly incarnated Carmarthenshire Bat Group. Natural Resources Wales Licence number S090746/1.
Miss Ceri Daugherty	Bats	Ceri worked at Team Leader level within the SNCO for Wales for many years, dealing with customers and negotiating with landowners. She also has practical conservation management experience as both a Countryside Ranger and a conservation volunteer. She possesses a Master's degree in Environmental Impact Assessment and a Bachelor's degree (with honours) in the natural sciences. She is a member of the Carmarthenshire Bat Group. Natural Resources Wales Licence number S089483/1.
Mr Pete Watts	Trainee	Peter provides survey support with his keen eye for detail and vigilance. He has accompanied I&G Ecological Consulting Ltd on many surveys and is becoming a valuable and experienced surveyor.
Mr Greg Evans	Trainee	Greg attends dusk and dawn surveys to provide extra monitoring for possible entry and exit points for bats. He is currently building his experience in this area and is a keen amateur natural historian with an enthusiasm and affinity for bats.
Mr Mike Jones	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Mike provides an excellent and reliable service
Ms Jody Evans	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Jody provides an excellent and reliable service.
Ms Sharon Doherty	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Sharon provides an excellent and reliable service.
Ms Wendy Larcombe	Assistant	Wendy has an Honours degree in Environmental Biology and over 17 years' experience working in conservation, including as a Planning Ecologist and a freelance Ecologist. She has a wide range of experience, which includes extended Phase 1 habitat surveys, building assessment for bats, bat/barn owl surveys, summer roost counts (Gower), and winter roost counts (Black Mountains). She has undertaken a range of training including bat ecology and surveying and is a valued member of the team.

Appendix 6: Site survey images



The property is a modern north-west facing detached predominantly two storey (there is a single storey rear section) dwelling which is subject to proposed plans for alterations and extension. It is constructed of brick walls with bitumastic felt lined slate roofs and is in excellent condition, well maintained, and tightly sealed.



The walls are in very good condition with no cracks or crevices while the uPVC soffits/fascias/barge boards are in very good condition, tight to the walls and with no exploitable gaps. In addition, the uPVC framed windows and doors are all intact and remain closed when not in use as is the garage door. The roofs are also in very good condition with no slipped/damaged/missing slates, no raised ridge tiles, no gaps under the flashing, and no potentially exploitable gaps anywhere.



Within the property, the bitumastic felt lining within the loft spaces (main loft and separate small loft) are in very good condition with no gaps other than one area in the main loft where it has been cut, but this has not created any potentially exploitable gaps. No natural light enters the spaces, the timbers within have only undisturbed cobwebs on them, and the surfaces and items (the spaces are used for storage) within have only dust on them. **No live or dead bats or their signs (e.g., droppings, urine stains or smells) were found anywhere either externally or internally.**

Appendix 7: Roost compensation & enhancement measures



Top: From left to right, the in-wall Schwegler 1FE, the tree mounted 1FF and the multi season 1WQ. The bottom image shows the 1FR in situ.



Middle: The Harlech Woodstone bat box offers excellent insulation with a minimum of condensation for roosting bats. Ideally you should site at least 2 to 3 boxes which should be erected facing in different directions to account for temperature changes of the day. WoodStone® is a mixture of sawdust from FSC wood sources and concrete, and it is designed to last for years. It is breathable so there will be no problems with condensation and Woodstone maintains a consistent temperature inside, providing excellent insulation for roosting bats. **Specifications:** Height 24cm x width 19cm x depth 18cm; Weight 4.4kg; Colour: Black with White front panel; Hook for hanging; Removable front panel for inspection / cleaning; 10 Year Manufacturers Guarantee.

Right: The Vivara Pro Build-in bat box specifically designed to fit into the cavity of house walls. It features a slim sized entrance hole which can sit flush in a course of bricks to provide a discreet entry way for bats. It is manufactured from hard-wearing WoodStone and plywood with removable side panels so that several boxes can be placed side by side. Position the box at least 2m above ground level away from artificial light sources. WoodStone is a mixture of sawdust from FSC wood sources and concrete, and it is designed to last for years. It is breathable so there will be no problems with condensation and Woodstone maintains a consistent temperature inside, providing excellent insulation for roosting bats.



Appendix 8: I&G Ecological Consulting Ltd legal disclaimer

This report was prepared by I&G Ecological Consulting at the instruction of, and for use by, our client(s) named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. I&G Ecological Consulting excludes to the fullest extent lawfully permitted, all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however, exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

We confirm that in preparing this report, we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, and prevailing site conditions.

Advice in this report is based on the judgement of I&G Ecological Consulting and the interpretation of data gathered during the course of their survey on the property named in this document. ***Until payment has been received, this report remains the intellectual property of I&G Ecological Consulting and can be withdrawn from the planning process at our request. You are also not covered by any of our indemnity or liability insurance until the report has been paid for in full.***

The findings and advice given during the course of this survey is provided by employees of I&G Ecological Consulting acting only on behalf of I&G Ecological Consulting.

The employees of I&G may hold other paid employment but none of their advice, nor work undertaken in respect of producing this report, refers to any roles or responsibilities held in any other employment other than that held at I&G Ecological Consulting.

All work undertaken in this report is the sole responsibility of I&G Ecological Consulting.

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