



Preliminary Roost Assessment Survey

Soar Chapel, Llanarmon Road, Glyn Ceiriog, Llangollen, Denbighshire, LL20 7NF

Hobsons (Lancashire) Ltd

Status	Issue	Name	Date
Draft	1	Louise Sawrey BSc (Hons), MRSB - Consultant	03/06/2021
Reviewed	1.1	Chris Formaggia BSc (Joint Hons) CBiol CEnv MCIEEM MRBS VR – Head of Ecology	04/06/2021
Draft	1.2	Louise Sawrey BSc (Hons), MRSB - Consultant	04/06/2021
Final	2	Louise Sawrey BSc (Hons), MRSB - Consultant	04/06/2021

Arbtech Consultant's Contact details:

Louise Sawrey BSc (Hons), MRSB
Consultant

Tel: 07748275573 Email: louise@arbtech.co.uk

Arbtech Consulting Ltd

<https://arbtech.co.uk>

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Executive summary

Arbtech Consulting Limited was commissioned by Hobsons (Lancashire) Ltd to undertake a Preliminary Roost Assessment (PRA) at Soar Chapel, Llanarmon Road, Glyn Ceiriog, Llangollen, Denbighshire, LL20 7NF. The survey was completed on 01/06/2021. The aim of the assessment was to search for bats/field signs of bats and to consider the value and suitability of the structures for roosting bats. The surveyor also made note of any other ecological constraints observed during the survey, notably the likelihood of presence or signs of breeding birds, and the suitability of the site for barn owls.

The development proposals are for the conversion of the existing building into a holiday let. A planning application is being prepared for submission to Wrexham County Borough Council.

Summary of Recommendations

B1 is a confirmed bat roost as ~30 bat droppings were located within loft space one. Three bat emergence and re-entry surveys are required during the active bat season (May – September) to characterise the roost present. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive. One of these surveys must be a dawn re-entry survey. Two surveyors are required to provide full coverage of the building.

Recommendations - This is work you will need to commission to obtain planning permission and comply with legislation

Contents

1.0 Introduction and Context	5
1.1 Background	5
1.2 Site Context	5
1.3 Scope of the report	5
1.4 Project Description	5
2.0 Methodology	5
2.1 Desk Study methodology	6
2.2 Site Survey methodology	6
2.3 Breeding birds and other incidental observations	6
2.4 Suitability Assessment	6
2.5 Limitations	7
3.0 Results and Evaluation	8
3.1 Desk Study Results	8
3.2 Designated sites	8
3.3 Landscape	9
3.4 Historical records	11
3.5 Field Survey Results	11
3.6 Site Feature descriptions and photos	12
4.0 Conclusions, Impacts and Recommendations	18
4.1 Informative guidelines	18
4.2 Evaluation	18
5.0 Bibliography	20
Appendix 1: Survey Plan	21
Appendix 2: Proposed Site Plan	22
Appendix 3: Desk Study Information	23
Appendix 4: Legislation and Planning Policy related to bats	25

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was commissioned by Hobsons (Lancashire) Ltd to undertake a Preliminary Roost Assessment (PRA) at Soar Chapel, Llanarmon Road, Glyn Ceiriog, Llangollen, Denbighshire, LL20 7NF. The survey was completed on 01/06/2021. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

No previous reports have been produced for this site by Arbtech.

1.2 Site Context

The site is located at National Grid Reference SJ 20068 37434 and has an area of approximately 0.1ha. There is only one building (B1) within the site boundary and affected by the proposed development.

1.3 Scope of the report

This report provides a description of all features suitable for roosting bats and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on constraints to the proposals as a result of roosting bats, and summarises the requirements for any further surveys, to inform subsequent mitigation proposals, achieve Planning or other statutory consent, and to comply with wildlife legislation.

The aim of the assessment was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how they could use the site. To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken, including an external survey and internal inspection where possible.
- An outline of likely impacts on any known roosts has been provided, based on current development proposals.
- Recommendations for further survey and assessment have been made, along with advice on the requirements of a European Protected Species Mitigation Licence (EPSML) application if appropriate.

A survey plan is presented in Appendix 1, proposed plans in Appendix 2, desk study results in Appendix 3 and a summary of relevant legislation is presented in Appendix 4.

1.4 Project Description

The development proposals are for the conversion of the existing building into a holiday let. A planning application is being prepared for submission to Wrexham County Borough Council.

2.0 Methodology

2.1 Desk Study methodology

The desk study included a 2km radius review of statutory and non-statutory designated sites, biodiversity action plan (BAP) priority habitats and granted EPSML records for bats held on magic.gov.uk database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

Existing bat records relating to the site and a surrounding 2km radius are required to conform to national guidelines. The data search is confidential information that is not suitable for public release and has been analysed and summarised for presentation in this report.

2.2 Site Survey methodology

The survey was undertaken by Louise Sawrey BSc (Hons), MRSB - Consultant (accredited agent to Natural Resource Wales Bat Licence Number: 79422:OTH:CSAC:2018) on 01/06/2021.

All features that will be impacted by the project proposals were assessed for their bat roosting and/or commuting habitat. The surveyor systematically surveyed all features suitable for-bats and signs of bat activity.

For any surveyed buildings:

A non-intrusive visual appraisal from the ground using binoculars, inspecting the external features of the building(s) for potential access/egress points, and for signs of bat use. An internal inspection of the building was also made, including the living areas of derelict or abandoned buildings and the accessible roof spaces of all buildings, using an endoscope, torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

For any surveyed trees:

A visual inspection from ground level using binoculars and where accessible and safe to do so, an internal inspection of potential roosting features using an endoscope, torch and ladders.

2.3 Breeding birds and other incidental observations

The surveyor also made note of any other ecological constraints observed during the survey, notably the likelihood of presence or signs of breeding birds, and the suitability of the site for barn owls *Tyto alba*.

2.4 Suitability Assessment

All affected survey features on site were categorised according to the likelihood of bats being present, in line with best practice guidelines (Collins, J. (ed) 2016). The features that dictate the likelihood of roosting bats are summarised in Tables 1 and 2 below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 1: Features of a building that are correlated with use by bats

Likelihood of bats being present	Feature of building and its context
Higher	Buildings/structures with features of particular significance for roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data).
Lower	A small number of possible roost sites/features used sporadically by more widespread species. Habitat suitable for foraging in close proximity but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging or commuting.

Table 2: Features of a tree that are correlated with use by bats

Likelihood of bats being present	Feature of tree and its context
Higher	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Lower	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.

2.5 Limitations

It should be noted that whilst every effort has been made to describe the features on site in the context of their suitability for roosting bats, this does not provide a complete characterisation of the site. This survey provides a preliminary view of the likelihood of bats being present. This is based on suitability of the habitats on site and in the local area, the ecology and biology of bats as currently understood, and the known distribution of bats as recovered during the desk study.

The main loft area could not be accessed safely due to the height drop from the loft space in the extension loft space.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results is provided below, full details are presented in Appendix 3.

3.2 Designated sites

Details of any statutory and non-statutory designated sites within a 2km radius of the survey site, including their reasons for notification, are provided in Table 3 below.

Table 3: Designated sites within 2km radius of the site

Designated Name	Site	Distance from Site (approx.)	Reasons for Notification from Natural Resources Wales and/or BRD or LPA policy maps
Statutory Sites			
River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (SSSI and SAC)		60m east	The River Dee catchment SSSI/SAC encompasses the entire stretch of the main River Dee from the mouth of the estuary to Llyn Tegid (Bala lake) and its tributary rivers the Ceiriog, Meloch, Mynach and part of the Tryweryn. A portion of the SAC lies within England: however, this assessment deals only with the Welsh section. In addition to lampreys the River Dee SAC has been designated primarily for the protection of Atlantic salmon <i>Salmo salar</i> , floating water plantain <i>uronium natans</i> and watercourses of plain to montane levels with <i>Ranunculus fluitantis</i> and <i>Callitriche Batrachion</i> vegetation, bullhead <i>Cottus gobio</i> and otter <i>Lutra lutra</i> as qualifying features.
Pandy Quarries SSSI		955m south	The whole escarpment is a SSSI with many valuable conservation features including; rare cliff flora, well-developed (and undisturbed) scree slopes, and established pairs of legally protected breeding birds. In comparison to other parts of the country, the Clwyd birds appear to nest slightly earlier in the year.
Berwyn a Mynyddoedd De Clwyd / Berwyn and South Clwyd Mountains (SSSI and SAC)		1680m north	Berwyn supports the most extensive tract of near-natural blanket bog in Wales. Berwyn contains the largest stands of upland European dry heath in Wales. Berwyn is the most important upland in Wales for breeding birds. It supports a wide range of species including internationally significant numbers of hen harrier <i>Circus cyaneus</i> , merlin <i>Falco columbarius</i> , peregrine <i>Falco peregrinus</i> and red kite <i>Milvus milvus</i> , as well as significant proportions of the Welsh populations of other species including short eared owl <i>Asio flammeus</i> , golden plover <i>Pluvialis apricaria</i> , red grouse <i>Lagopus lagopus</i> and black grouse <i>Tetrao tetrix</i> .
Non-statutory Sites			
None known			

3.3 Landscape

A review of the designated sites, aerial photographs (Figure 1), the magic.gov.uk database and OS maps has been undertaken. Collated together, the site's local bat habitat is described as: The site is in a rural area of north Wales. The landscape is dominated by woodland and grassland habitats, with the settlement of Glyn Ceiriog extending adjacent to the north. There are large woodland copses and tree lines around the area, which could be used for foraging and commuting. The River Ceiriog is located within 60m to the east that could be an important local habitat for bats. Scattered irrigation ditches around the area will provide abundant insect foraging for bats.

Priority habitats within 2km of the site are listed in Table 4.

Table 4: Priority Habitat Inventory within 2km (Magic.gov.uk):

Habitat	Closest distance from site
Broadleaved Woodland	Adjacent to the west
Conifer Woodland	~140m southwest



Figure 1: Aerial photo of site, showing landscape structure

3.4 Historical records

Existing bat records relating to the site and a surrounding 2km radius are required to conform to national guidelines. The data search is confidential information that is not suitable for public release. The client has been advised that biological records data for the local area is necessary to facilitate a complete assessment. To date Arbtech has not been authorised to purchase these records from COFNOD. The Local Planning Authority (LPA) may request that bat records data are obtained to conform to national guidelines, and these can be incorporated into the report at a later date.

Table 5: Historical records* of bats within 2km of the site

Common name	Scientific binomial	Number of records	Number of roost records	Maternity roost records
BRD not obtained at this stage.				

There is currently no online database of bat mitigation licences granted by Natural Resources Wales. As the 2km search radius does not cross the Wales-England border, it is not known if there are any nearby sites with bat mitigation licences issued by Natural Resources Wales.

Table 6: Granted EPSMLs (bats) within 2km of the site

Case reference of granted application	Approx. distance from site	Bat Species Effected	Licence Start Date:	Licence End Date:	Impacts allowed by licence
Unknown.					

3.5 Field Survey Results

One building on site was surveyed, designated as B1, and illustrated in the map in Appendix 1. The weather conditions recorded at the time of the survey are shown in Table 7.

Table 7: Weather conditions during the survey

Date: 01/06/2021	
Temperature	15°C
Relative Humidity	85%
Cloud Cover	20%
Wind	2mph
Rain	None

3.6 Site Feature descriptions and photos

B1 Exterior

B1 is a detached, stone-built former chapel with a pitched and gabled roof clad in concrete roof tiles. The roof tiles are in very good condition with no raised tiles under which bats could roost. The roof has been replaced in recent years. The windows are UPVC framed and tightly-sealed as they have been replaced in recent years. There are timber soffits boxes on both gable ends, which appear to be in good condition with no gaps in which bats could roost.

The stonework around the building is rendered on the northern and southern elevations and appears to be in good condition with no gaps or cracks in which bats could roost. The stonework on the eastern and western gable ends appears to be in good condition with no suitable roosting features for bats. There are no gaps along the eastern gable end. There are gaps in the apex of the western gable end, which will provide void-dwelling bats with access into the loft space. The gaps correlate with daylight entering loft space one.



Northern elevation and eastern gable end.



Southern elevation and eastern gable end.



Northern elevation.



Eastern gable end.



Southern elevation and western gable end.



Northern elevation and western gable end.



Gaps in the apex below the soffit box on the western gable end.



Southern elevation and western gable end.

B1 Interior

There are two loft spaces within the main roof void of B1.

The roof structure in loft space one (located on the western section of the building) is built from modern timber beams including the ridge beam. The roof is lined with bitumen felt, which appears to be in good condition with no major gaps or tears. The floor of the loft space has timber boards in places. There is no daylight entering the eaves of the loft space, which indicates that the loft space is tightly sealed.

There are gaps around the stonework on the apex of the western gable end that bats could use to enter the building. Daylight enters through the apex and also correlates with the gaps noted externally.

Full access was not possible into loft space two (main section of the building) due to the high drop height from loft space one into loft space two. Loft space two is built from modern timber beams with sarking boards covering the roof tiles. No daylight enters the loft space, which indicates that it is tightly sealed.



Loft space one, western gable end.



Loft space one, roof structure.



Loft space one, looking east.



Loft space one, gaps in the apex of western gable end.



Loft space two, looking east.

B1 Evidence of bats

There ~30 bat droppings located in loft space one. The droppings were scattered below the western gable end, and across the loft space floor. The size, shape and colour of the droppings indicate that they were deposited by a void-dwelling species such as a brown long-eared bat and appear to be quite old due to the colour and deterioration of the droppings. A 'crumble test' was carried out to determine that droppings were bat as opposed to mouse droppings, which do not crumble.

A sample of the bat droppings was retained for DNA analysis. The droppings will be sent off for DNA testing (if required), following the suite of bat emergence/re-entry surveys.

B1 Breeding birds and other incidental observations

There was no evidence of nesting birds located internally or externally on the survey building.



Scattered bat droppings on loft hatch.



Scattered bat droppings.



Scattered bat droppings below the gaps in the western gable end.



Scattered bat droppings.

4.0 Conclusions, Impacts and Recommendations

4.1 Informative guidelines

Bats are protected under the Wildlife and Countryside Act and Conservation Regulations (see Appendix 4 for a summary of legislation protecting bats in the UK). Legislation protects all wild birds whilst they are breeding, and prohibits the killing, injuring or taking of any wild bird or their nests and eggs. Certain species of bird, including the barn owl, are subject to special provisions; it is an offence to disturb any bird or their young during the breeding season.

There are three possible outcomes of this survey, each with specific recommendations. These are outlined below:

Confirmed bat roost

Best practice survey guidelines (Collins, 2016) recommend additional surveys for confirmed roosts. Three further surveys are required to characterise the bat roost present including species, roost type and access points to inform a European protected species mitigation licence (EPSML) application with Natural Resources Wales. Surveys must be completed during the active bat season (May – September). At least two of the surveys should be completed during the optimal survey period mid-May to August, and at least one of the surveys should be a dawn re-entry survey (Collins, J. 2016).

Low, moderate or high likelihood of a bat roost present

Best practice survey guidelines (Collins, 2016) recommend additional surveys for features assessed as having low to high suitability for roosting bats. One, two or three further surveys are required to confirm presence/likely-absence of a bat roost, based on a low, medium or high roost likelihood evaluation. Surveys must be completed during the active bat season (May – September). If more than one survey is recommended, at least one of them should be completed during the optimal survey period mid-May to August, and at least one of the surveys should be a dawn re-entry survey (Collins, J. 2016). If two or one further survey is recommended these surveys must be completed during the optimal survey period (mid-May to August). For low and moderate roost likelihood evaluation the survey effort recommended at this stage is iterative and if bats roosts are confirmed in the building, a further survey will be required to provide sufficient information to inform an EPSML application to Natural Resources Wales.

Negligible likelihood of a bat roost present

Buildings assessed as comprising negligible suitability for roosting bats do not normally require further surveys. However, if bats are found during any stage of the development, work should stop immediately and a suitably qualified ecologist should be contacted for further advice.

4.2 Evaluation

Taking the desk-based assessment and site survey results into account, the following value for roosting bats has been placed on each site survey feature.

Table 8: Evaluation of the building on site

Ref	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF (2019)
B1 Bats	B1 is a confirmed bat roost as ~30 bat droppings were located within loft space one.	As the proposals include the conversion of building, any bat roosts present would be destroyed.	Three bat emergence/re-entry surveys are required during the active bat season (May – September) to characterise the roosts present. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive. One of these surveys must be a dawn re-entry survey. Two surveyors are required to provide full coverage of the building.	To be confirmed following further surveys.
B1 Birds	B1 has no evidence of nesting birds.	No impacts on nesting birds as the proposals are for internal conversion only.	No further surveys required.	Install one bird box on a mature tree on site e.g. - Woodstone Nest Box - Woodstone Open Nest Box Or a similar alternative. Nest boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain, and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.

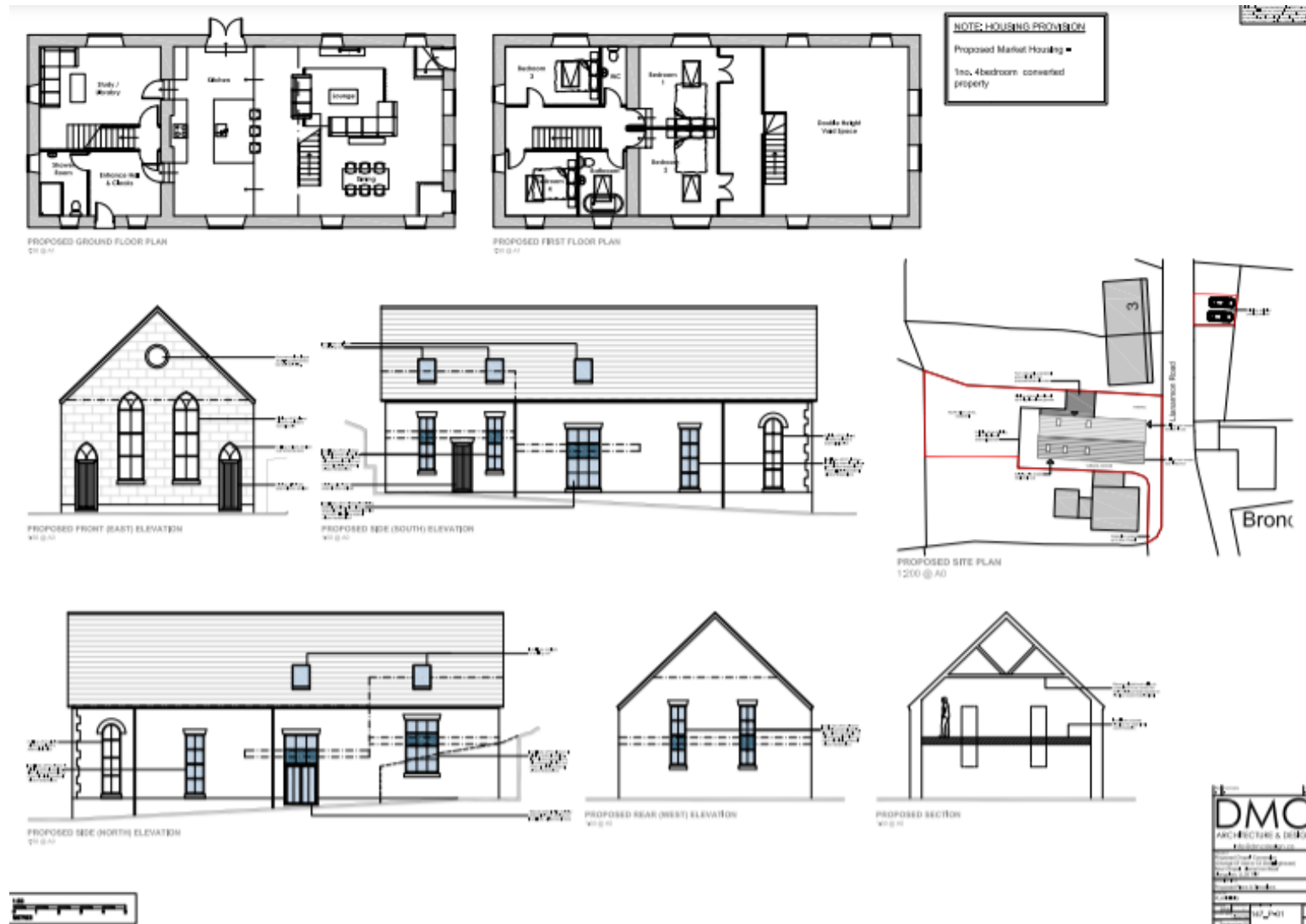
5.0 Bibliography

- British Trust for Ornithology (2016) www.bto.org/about-birds/nnbw/putting-up-a-nest-box
- Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected?
- Google Earth (2021) accessed on 02/06/2021.
- Magic.gov.uk database (2021) <http://www.magic.gov.uk/MagicMap.aspx> accessed on 02/06/2021.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Appendix 1: Survey Plan



Appendix 2: Proposed Site Plan

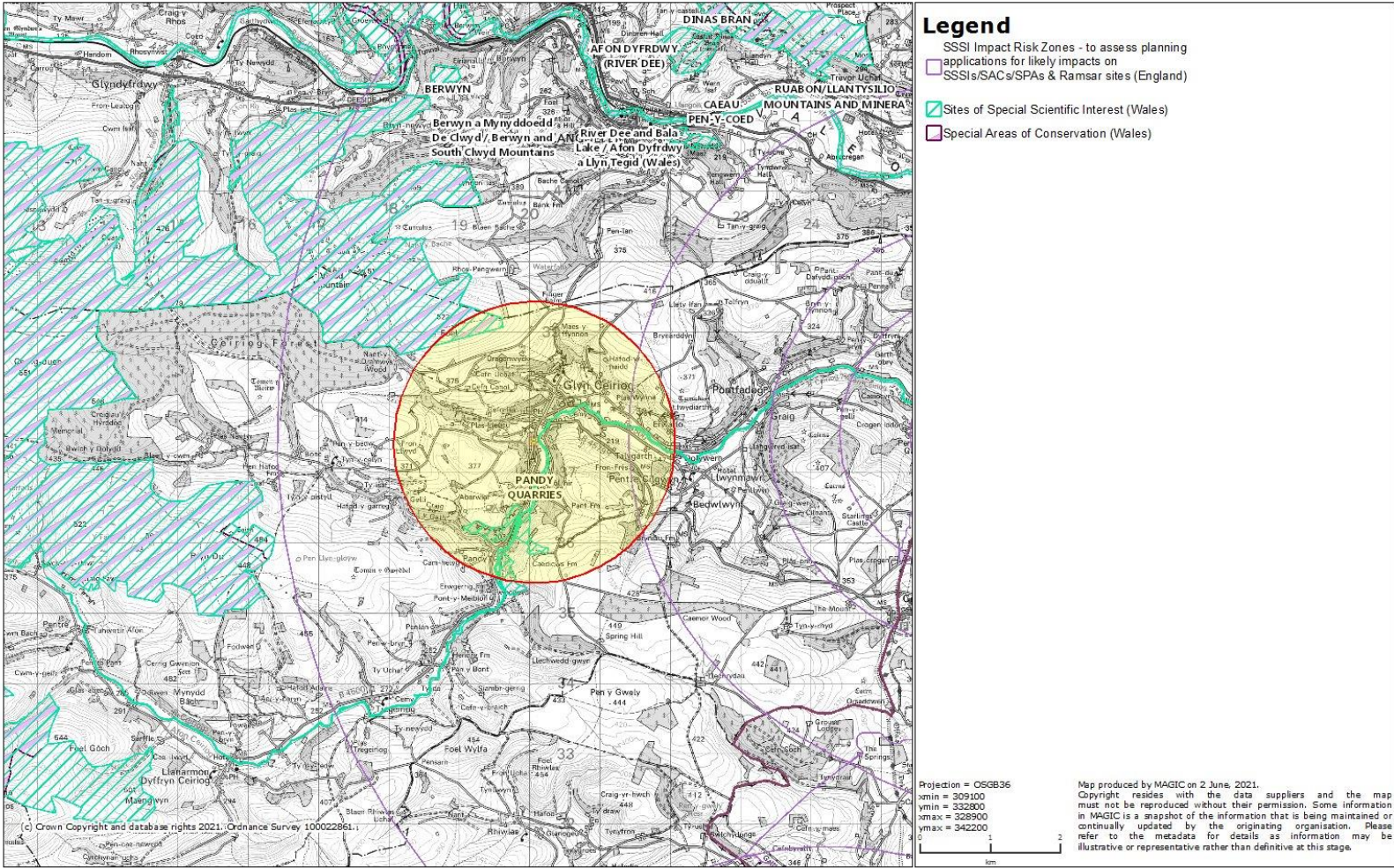


Appendix 3: Desk Study Information

Full historical records can be provided on request.

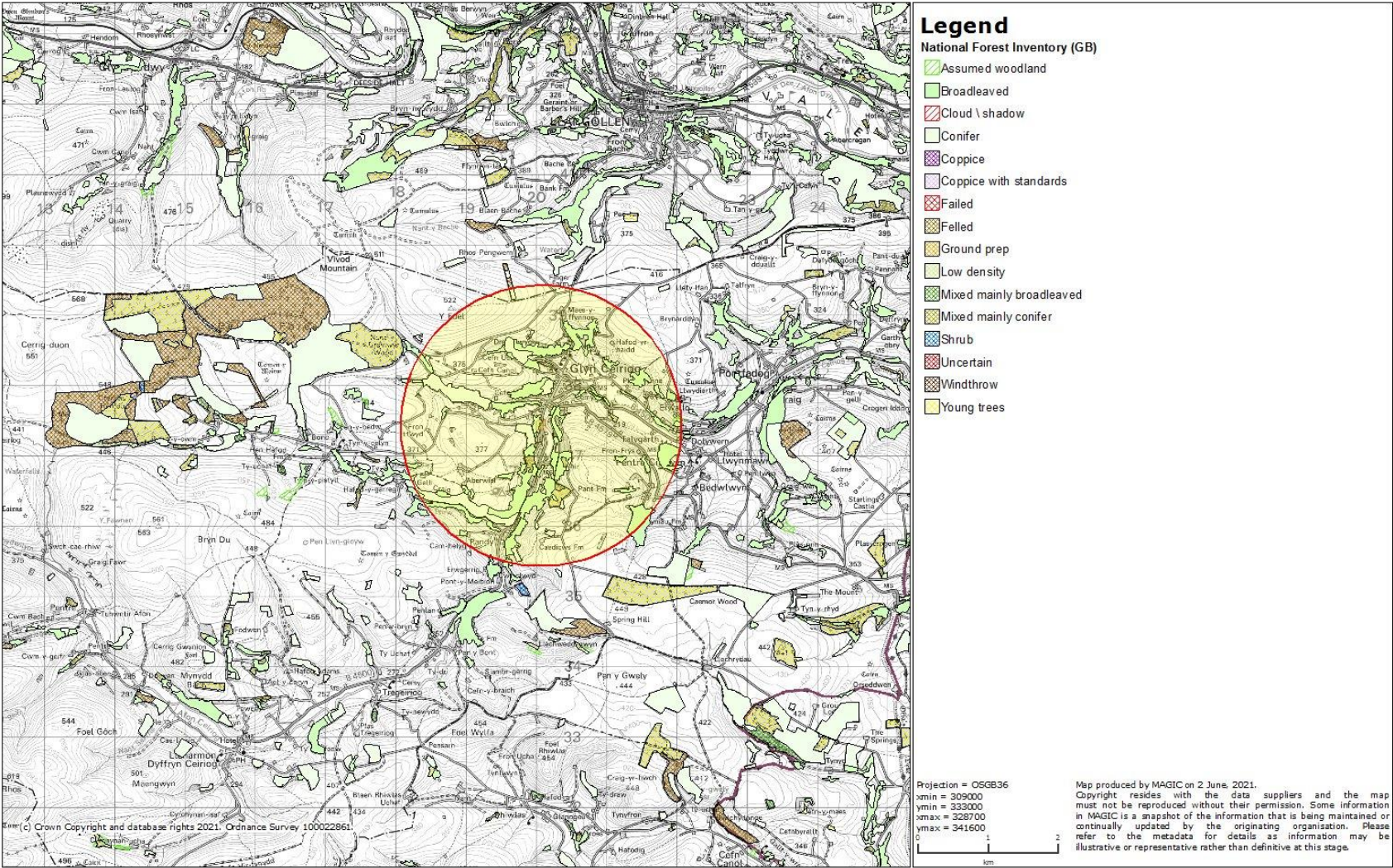


Designations



MAGiC

Habitats



Appendix 4: Legislation and Planning Policy related to bats

LEGAL PROTECTION

All species of bat are fully protected under *The Conservation of Habitats and Species Regulations 2017* through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

- (a) Deliberately captures, injures or kills any wild animal of a European protected species,
- (b) Deliberately disturbs wild animals of any such species,
- (c) Deliberately takes or destroys the eggs of such an animal, or
- (d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

- (a) To impair their ability:
 - (i) To survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) To affect significantly the local distribution or abundance of the species to which they belong.

All species of bats are also protected under the *Wildlife and Countryside Act 1981 (as amended)* through their inclusion on *Schedule 5* (which applies to England and Wales). Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 42 of the Act requires The National Assembly for Wales must, as respects Wales, publish a list of the living organisms and types of habitat which in the Assembly's opinion are of principal importance for the purpose of conserving biodiversity. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

Environment (Wales) Act 2016 and the Biodiversity Duty

The Environment (Wales) Act introduces a new biodiversity duty, which highlights biodiversity as an essential component of ecosystem resilience. This new duty replaces the biodiversity duty in the Natural Environment and Rural Communities Act 2006 (referred to as the NERC Act). Part 1 of the Act deals with Sustainable management of natural resources including Biodiversity and Resilience of Ecosystems Duty. The Environment Act enhances the current NERC Act duty to require all public authorities, when carrying out their functions in Wales, to seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”. As under the NERC Act the new duty will apply to a range of public authorities such as the Welsh Ministers, local authorities, public bodies and statutory undertakers. This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

PLANNING POLICY WALES (draft 2018)

Paragraph 5.42 of the document refers to Biodiversity and Ecological Networks and states:

The planning system has a key role to play in helping to reverse the decline in biodiversity and increasing the resilience of ecosystems, at various scales, by ensuring appropriate mechanisms are in place to both protect against loss and to secure enhancement. Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity and the resilience of ecosystems. Information contained in The State of Natural Resources Report (SoNaRR) (published by Natural Resources Wales and Area Statements should be taken into account. Development plan strategies, policies and individual development proposals must take into account the need to:

- Promote the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- Ensure statutorily designated sites are properly protected and managed;
- Safeguard protected species; and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil; and
- Seek enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Biodiversity and Resilience of Ecosystems Duty (Section 6 Duty)

5.44 Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. Planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

- a) Diversity between and within ecosystems;
- b) The connections between and within ecosystems;
- c) The scale of ecosystems;

- d) The condition of ecosystems (including their structure and functioning); and
- e) The adaptability of ecosystems.

5.45 In fulfilling this duty, planning authorities must have regard to:

- a) The list of habitats of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
- b) The State of Natural Resources Report (SoNaRR), published by NRW; and
- c) Any Area Statement that covers all or part of the area in which the authority exercises its functions.

5.46 A proactive approach towards facilitating the delivery of biodiversity and resilience outcomes should be taken by all those participating in the planning process. In particular, planning authorities should demonstrate that they have sought to fulfil the duties and requirements of Section 6 of the Environment Act by taking all reasonable steps to maintain and enhance biodiversity in the exercise of their functions. The broad framework for implementing the duty and building resilience through the planning system includes addressing:

- Diversity: to ensure mechanisms are in place to minimise further loss and that circumstances allow for species' populations to expand and recolonise their natural range (former range) or adapt to future change. This means development should provide a net benefit for biodiversity, and at the very least, with no significant loss of habitats or populations of species, locally or nationally;
- Extent: to ensure mechanisms allow for the maintenance of existing assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new habitat. This means that planning choices should incorporate measures which seek the creation and restoration of green networks and linkages between habitats and maintaining and
- enhancing other green infrastructure features and networks;
- Condition: this is more complex to address, not least because of the interactions of various factors which underpin habitats. At the very least planning approaches should not compromise the condition of ecosystems. By taking an integrated approach to development, for example, which considers both direct and wider impacts and benefits it should be possible to make a positive contribution through the planning system; and
- Connectivity: to take opportunities to develop functional habitat and ecological networks across landscapes, building on existing connectivity and quality and encouraging habitat creation and restoration. The opportunities could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors (including transport and river corridors) and the creation of 'stepping stones' which will strengthen the ability of habitats and ecological networks to adapt to change, including climate change.

Good Practice Guide GPG 3 (October 2015) NRW Approach to Bats and Planning

As explained in Planning Policy Wales (Chapter 5 - Conserving and Improving Natural Heritage and the Coast), the presence of a European protected species is a material consideration for a development proposal that would be likely to result in disturbance or harm to the species or its breeding sites or resting places. Planning Policy Wales also explains that planning authorities should seek the advice of Natural Resources Wales for all planning applications likely to result in disturbance or harm to bats and should always consult them before granting permission. Local Planning Authorities address this by screening applications to identify when there is a reasonable likelihood that bats may be present and, therefore, when to require a bat survey and report

that will confirm if bats are present and if they likely to be disturbed or harmed by the proposal. The overall requirement on Local Planning Authorities, Natural Resources Wales and developers is to avoid harm or disturbance to bats and their breeding sites and resting places, unless Natural Resources Wales has given a licence to allow the harm or disturbance. Natural Resources Wales may only give a licence if the requirements for derogation are met, including that disturbance or harm to individual bats (or to their breeding sites and resting places) would not be detrimental to the maintenance of the population.

Effect on development works:

A European protected species mitigation (EPSM) Licence issued by Natural Resources Wales will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored. The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 12 species of bat breeding in Wales and Natural Resources Wales issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

1. ***include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;***
2. scientific and educational purposes,
3. ringing or marking
4. conserving wild animals

Development works fall under the first purpose and Natural Resources Wales issues bat mitigation licences for developments.