



Preliminary Roost Assessment Survey

St David's Cottage, Tainant, Penrycae, Wrexham, LL14 1UG

Suzanne Shaw

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Executive summary

Arbtech Consulting Limited was commissioned by Suzanne Shaw to undertake a Preliminary Roost Assessment (PRA) at St David's Cottage, Tainant, Penycae, Wrexham, LL14 1UG. The survey was completed on 21st September 2021.

Two buildings on site were surveyed as they will be impacted by the proposed development. B1 is a single-storey brick-built residential dwelling with a multi-pitched and gabled roof clad in slate roof tiles. B2 is a single-storey garage outbuilding with a pitched and gabled roof also clad in slate roof tiles. The proposed plans are for an extension to the main dwelling which will impact the existing roof structure as well as the removal of the roof on the garage. The survey finding and recommendation have been summarised in the table below.

Ref	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations
B1 Bats	The building is a confirmed roost as droppings were found internally in the loft space.	As the proposals include the removal of part of the existing roof structure and the addition of an extension, the roost will be destroyed. This could result in death or injury or disturbance of bats.	Three bat emergence and 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.
B2 Bats	The building has “low habitat value” (Collins, 2016) for supporting roosting bats due to the presence of a small number of suitable external roosting features for crevice-dwelling bats.	As the proposals include the removal of part of the existing roof structure and the addition of an extension, any bat roosts present would be destroyed. This could result in death or injury or disturbance of bats.	One bat emergence or re-entry survey is required during the active bat season (May – September) to confirm presence or likely-absence of a bat roost in the building. The survey must be completed during the optimal survey period mid-May to August inclusive.
B1 Birds	The site provides negligible habitat for barn owls or breeding birds.	None.	None.

The above is work you will need to commission to obtain planning permission and to comply with legislation.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was commissioned by Suzanne Shaw to undertake a Preliminary Roost Assessment (PRA) at St David's Cottage, Tainant, Penycae, Wrexham, LL14 1UG. The survey was completed on 21st September 2021. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, 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 26957 46431, and has an area of approximately 0.1ha. There are two buildings within the site boundary both of which were surveyed as they will be 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 (where available), 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 a side extension to the main house which will adjoin to the exiting garage building. 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 Mel Reid BSc (Hons) MRes, Consultant (Natural England Bat Licence Number: 2019-43774-CLS-CLS).

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 or 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, 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 or 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 or 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.

Specific limitations to the survey were a lack of access to the loft space of B1 due to health and safety reasons. The loft hatch was too small to allow a full inspection of the loft space and as such the loft space could only be inspected from the loft hatch itself.

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 Site Name	Distance from Site (approx.)	Reasons for Notification from Natural England and/or BRD or LPA policy maps
Statutory Sites		
Ruabon/Llantysilio Mountains And Minera Site of Special Scientific Interest (SSSI)	630m west	Ruabon/Llantysilio Mountains and Minera SSSI occupies a major upland block stretching north from the Dee Valley between Corwen and Ruabon for a distance of up to 9 kms. It rises to an altitude of around 580 m. The site is notified firstly on biological grounds, for its heather moor, limestone and neutral grassland habitats and for its species interest comprising a range of upland breeding birds, rare and uncommon plants and the use of mines and caves by bats. The site is also notified on geological grounds as it contains three sites of special interest within its boundaries.
Berwyn and South Clwyd Mountains Special Area of Conservation (SAC)	630m west	Designated site due to the presence of blanket bog, base-rich scree, plants in crevices in base-rich rocks, dry grassland and scrublands on chalk/limestone and very wet mires.
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 below: The site is situated within a rural area of North Wales, Wrexham. The landscape is dominated by open grass fields with hedgerow and tree-lined boundaries. There is woodland directly adjacent to the site which will provide good bat foraging and commuting habitat. Nan Crogfryn is located just north of the site providing further suitable bat foraging and commuting habitat. 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
National Forest Inventory	Adjacent to north

* The desk study results may not include certain habitats due to limited data being available on MAGIC for Wales and further data should be obtained from the LRC to support the desk study

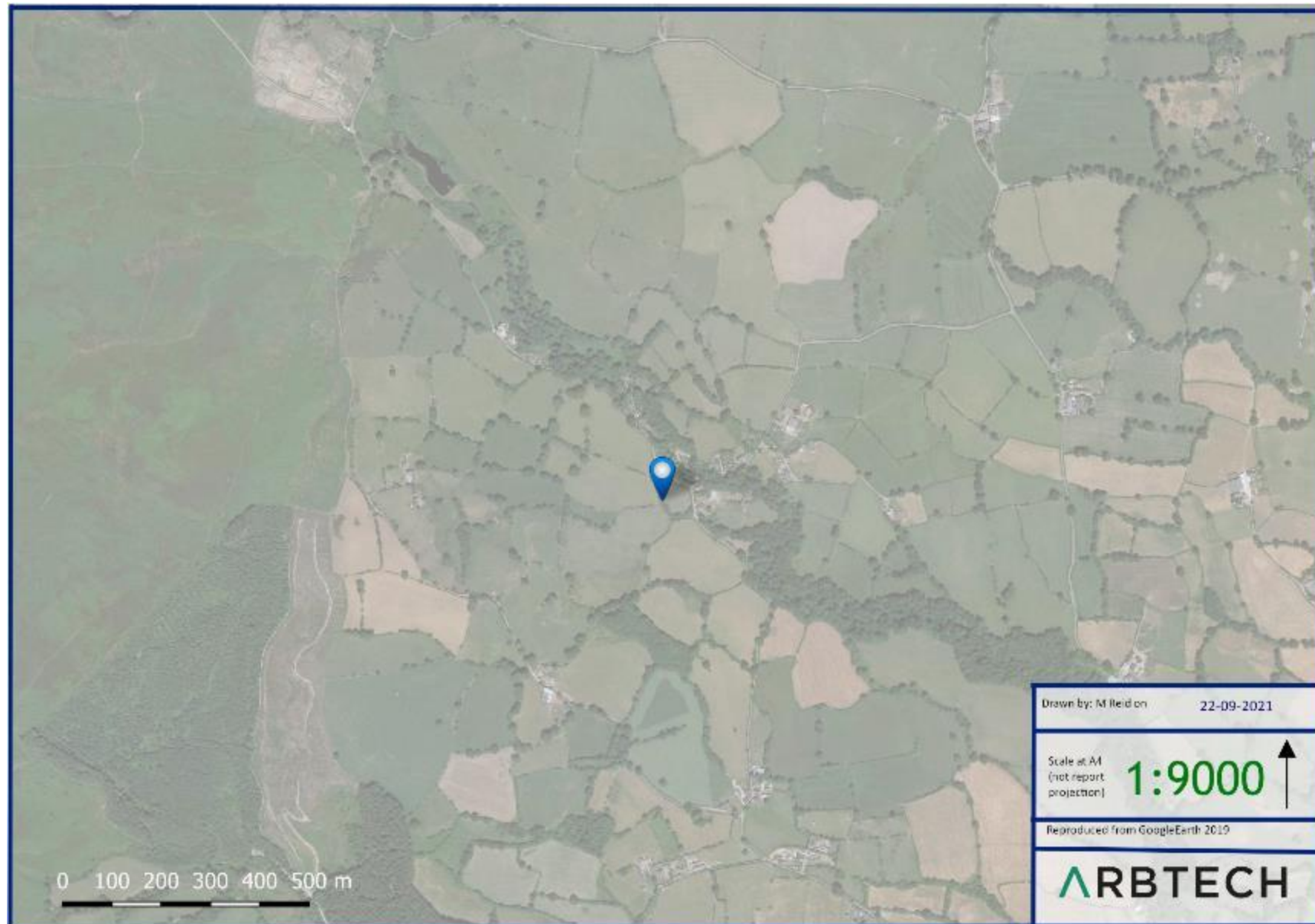


Figure 1: Aerial photo of site, showing landscape structure

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
The client has not authorised Arbtech to purchase BRD to incorporate into the evaluation.				

*Records from the past 10 years

A search of the Magic database for granted European Protected Species Mitigation Licences (EPSMLs) for bats within a 2km radius of the site was completed. However, this database only includes licences granted by Natural England. 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

Two buildings on site were surveyed, designated as B1 and B2 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: 21/09/2021	
Temperature	15°C
Humidity	77%
Cloud Cover	10%
Wind	1mph
Rain	None

3.6 Site Feature descriptions and photos

B1 Exterior

B1 is a single-storey brick-built residential dwelling with a pitched and gabled roof clad in slate roof tiles. The building has a pebble-dash rendering which appears in a good condition with no gaps or cracks suitable for crevice-dwelling bats. There is one main roof pitch running northeast to southwest, with a further roof ridge intersection this running northwest to southeast. There is a further dormer roof on the south-eastern elevation. There are some lifted slate roof tiles offering suitable roosting habitat for crevice-dwelling bats. There is a wooden bargeboard around the building behind which are gaps suitable for crevice-dwelling bats to roost within. There are gaps between the walls tops and eaves around the building providing further suitable roosting habitat for crevice-dwelling bats and access into the loft space for void-dwelling bats. The windows and doors are timber framed and are in good condition with no gaps around them in which bats could roost.

All identified roosting features have been highlighted in the photos below.



Southern-eastern elevation of B1 (pictured above).



Close-up of lifted tiles on south-eastern elevation of B1 (pictured above).



Close-up of gap along wall tops on south-eastern elevation of B1 (pictured above).



Close-up of gap behind bargeboard on south-eastern elevation of B1 (pictured above).



Gable-end on north-western elevation of B1 (pictured above).



Close-up of gap on north-western gable-end of B1 (pictured above).



Close-up of gap along north-western gable-end of B1 (pictured above).



Gable-end on north-eastern elevation of B1 (pictured above).



North-eastern elevation of B1 (pictured above).

B1 Interior

There is one loft space within the main roof void of B1. The roof structure is built from modern timber beams including the ridge beam. The roof is lined partially with plastic sheeting and partially unlined. The floor of the loft space is lined with mineral wool insulation and there are timber boards in places. There are cobwebs around the ridge beam and roof to floor cobwebs which could indicate a lack of internal flying activity from void dwelling bats, such as brown long-eared bats. Daylight could be seen entering the loft space through the roof structure and along the eaves indicating potential bat and bird access points. A full inspection of the loft space could not be conducted due to the small size of the loft hatch preventing access. As such the loft space could only be inspected from the loft hatch itself.



Loft space of B1 (pictured above).



Loft space of B1 (pictured above).

B1 Evidence of bats

There were approximately 20 bat droppings located next to the loft hatch within the loft space of B1. The size, shape and colour of the droppings indicate that they were deposited by a crevice dwelling species such as a pipistrelle bat and are assessed to have been recently deposited. A sample of the bat droppings was retained for DNA analysis. The loft space could not be fully inspected and as such it is unknown whether bat droppings are present across further areas of the loft space.



Bat droppings located within loft space of B1 (pictured above).

B1 Breeding birds and other incidental observations

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

B2 Exterior

B2 is a single-storey brick-built detached outbuilding with a pitched and gabled roof clad in slate roof tiles. The building is used as a garage. The roof structure appears in a good condition with no gaps or cracks suitable for crevice-dwelling bats. There is a UPVC bargeboard along the north-eastern and south-western gable-ends behind which area gaps suitable for crevice-dwelling bats. There are double-doors located on the south-western elevation of the building. The double-doors are tight-fitting with no gaps around them that bats could use to enter the building. There is a wooden lintel above the door which offers gaps suitable for crevice-dwelling bats.



South-western elevation of B2 (pictured above).



Close-up of gap behind bargeboard on south-western elevation of B2 (pictured above).



North-eastern gable-end of B2 (pictured above).



North-eastern and south-eastern elevations of B2 (pictured above).



South-eastern elevation of B2 (pictured above).



Close-up of roof structure on south-eastern elevation of B2 (pictured above).

B2 Interior

B2 – interior, western gable end (pictured opposite).

The roof structure is built from modern timber beams including the ridge beam. The roof is not lined and the backs of the slate tiles are exposed. Daylight enters through the gaps between the raised roof tiles in places and bats could use these gaps to enter the building. The internal roof structure appeared heavily cobwebbed which can indicate a lack of recent bat flying activity. There are high levels of internal light due to the presence of windows reducing the likelihood of the internal area for void-dwelling bats.



Interior of B2 (pictured above).



Interior of B2 (pictured above).

B2 Evidence of bats

There was no evidence of bat activity located internally in B2. There was no evidence of bat use (e.g. bat droppings) found on external features. However, this kind of evidence is easily weathered away on the exterior of buildings and is rarely visible.

B2 Breeding birds and other incidental observations

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

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) recommends 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 England. 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) recommends 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 or 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, 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 England.

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 Arbtech 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.

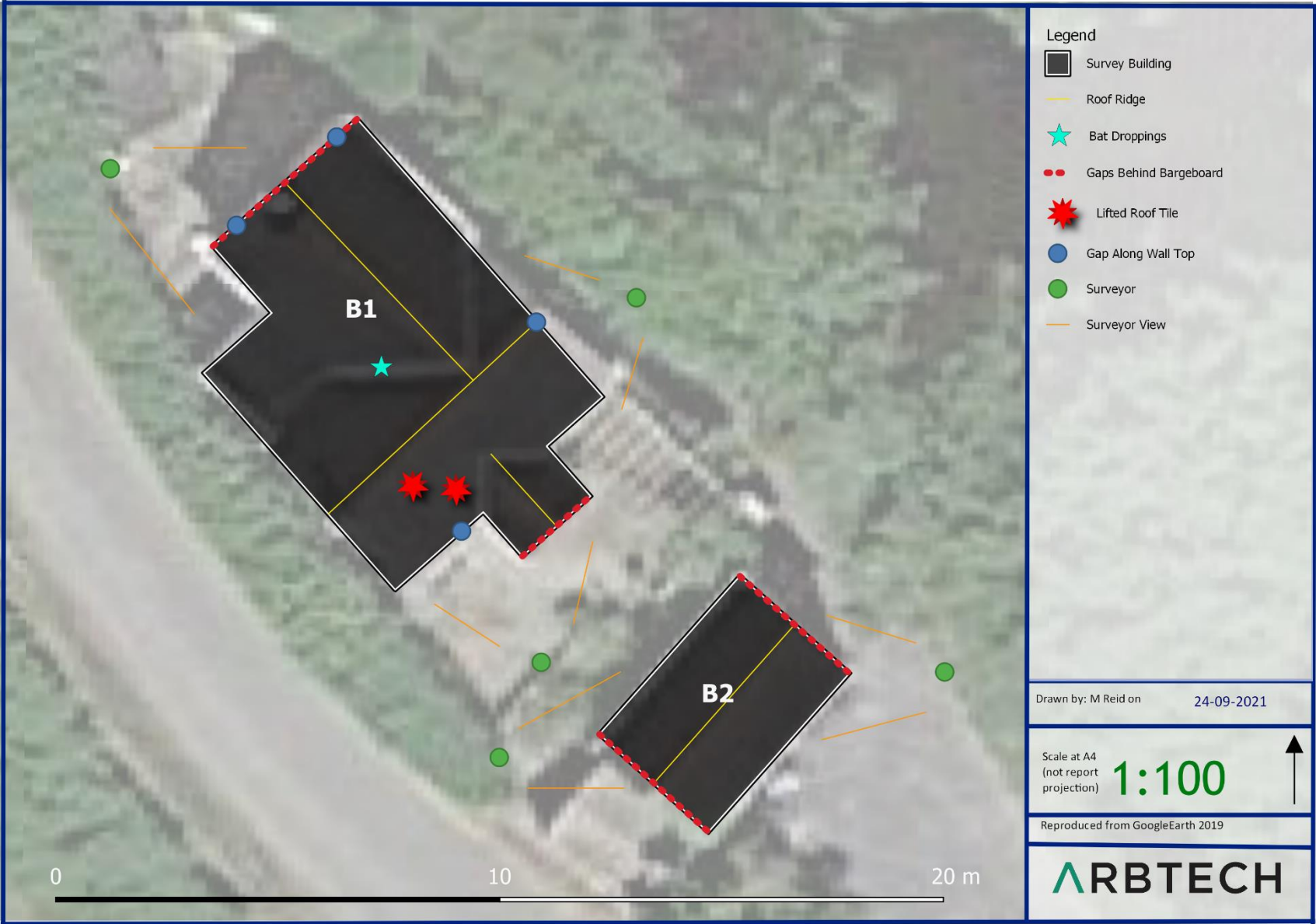
Table 8: Evaluation of the buildings on site

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	The building is a confirmed roost as droppings were found internally in the loft space.	As the proposals include the removal of part of the existing roof structure and the addition of an extension, the roost will be destroyed. This could result in death or injury or disturbance of bats.	Three bat emergence and 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. Sub-optimal: early May and September. One of these surveys must be a dawn re-entry survey. Three surveyors are required to provide full coverage of the building.	To be confirmed following further surveys.
B2 Bats	The building has “low habitat value” (Collins, 2016) for supporting roosting bats due to the presence of a small number of suitable external roosting features for crevice-dwelling bats.	As the proposals include the removal of part of the existing roof structure and the addition of an extension, any bat roosts present would be destroyed. This could result in death or injury or disturbance of bats.	One bat emergence or re-entry survey is required during the active bat season (May – September) to confirm presence or likely-absence of a bat roost in the building. The survey must be completed during the optimal survey period mid-May to August inclusive. Sub-optimal: early May and September. The survey can be either a dusk emergence or dawn re-entry survey. Two surveyors are required to provide full coverage of the building. If bat roosts are confirmed in the building two additional survey will be required to inform a European protected species mitigation Licence application to Natural England once planning permission has been granted. At least one of the additional surveys will need to be completed during the peak survey period.	To be confirmed following further surveys.
B1 Birds	The site provides negligible habitat for barn owls or breeding birds.	None.	None.	Integrated bird boxes can be installed within the new extension, which will provide new permanent bird nesting provision on site. Suitable bird brick include the Vivara Pro WoodStone House Sparrow Nest Box and the WoodStone Build-in Swift Nest Box A. These should be installed during construction and should be placed on an elevation facing greenery, at a minimum height of 5m.

5.0 Bibliography

- British Trust for Ornithology (2016) www.bto.org/about-birds/nnbw/putting-up-a-nest-box
- Collins, J. (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
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- Google Earth (2021) accessed on 22/09/2021.
- Magic database (2021) <http://www.magic.gov.uk/MagicMap.aspx> accessed on 22/09/2021.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- Planning Policy Wales (2018) <https://gov.wales/sites/default/files/publications/2019-02/planning-policy-wales-edition-10.pdf>

Appendix 1: Survey Plan

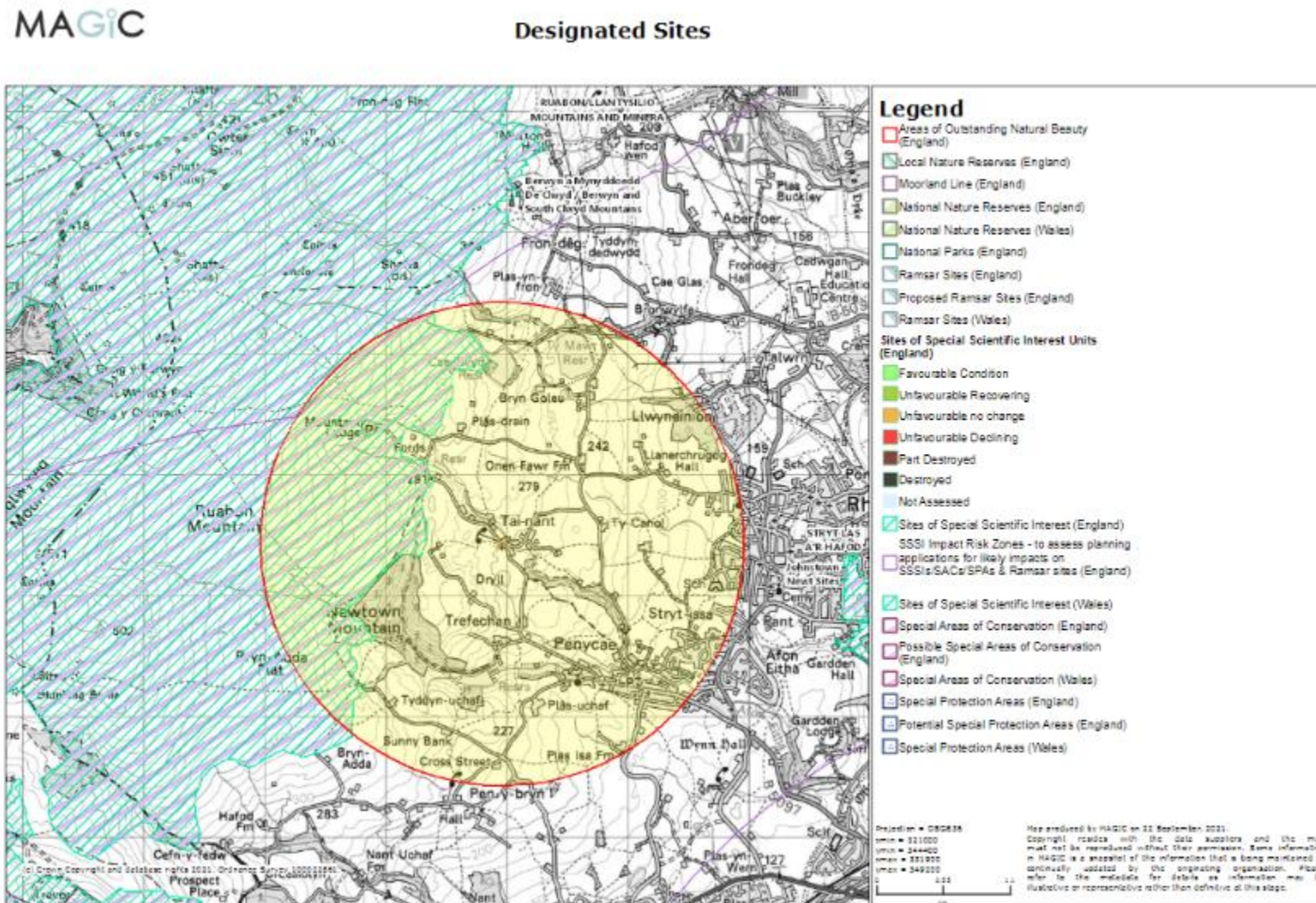


Appendix 2: Proposed Site Plan

None provided

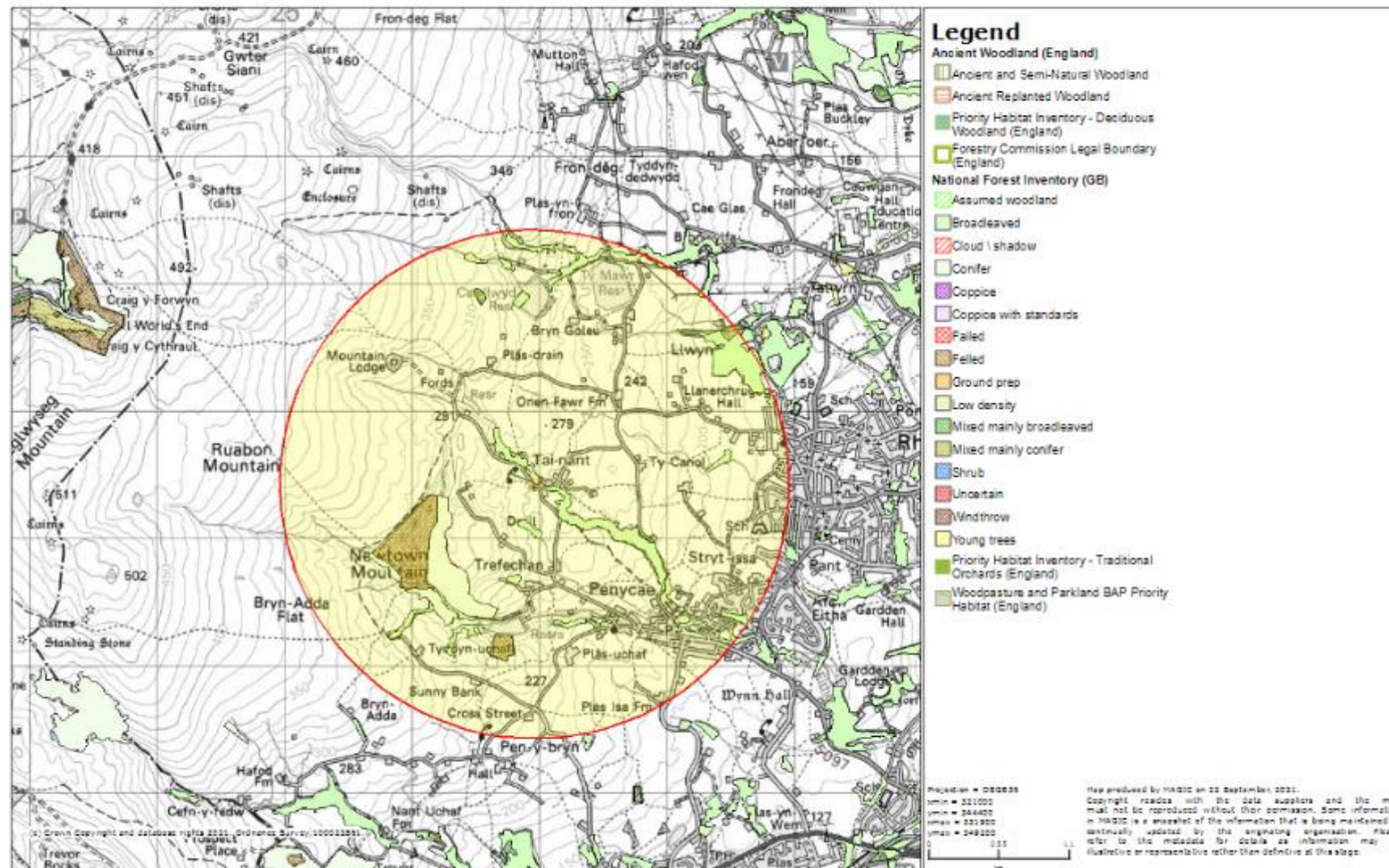
Appendix 3: Desk Study Information

Full historical records can be provided on request.



MAGiC

Priority Habitat



Appendix 4: Legislation and Planning Policy related to bats

LEGAL PROTECTION

New legislation (2020)

The ***Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*** came into force when Britain left the European Union on 31st January 2020. It covered amendments relevant to this survey to:

Wildlife and Countryside Act 1981: England and Wales (x1 amendment)

Conservation of Habitats and Species Regulations 2017 (x29 amendments)

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017 2017*** (amended by the ***Conservation of Habitats and Species Regulations (amendment) (EU Exit) Regulations 2019*** which continue the same provision for European protected species, licensing requirements and protected sites after the UK leaves the EU) 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 (2018)

Paragraph 6.4.3 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 consider the need to:

- support 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

- Secure 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)

6.4.5 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.

6.4.6 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.

6.4.7 Planning Authorities should also refer to up to date ecological survey information (where appropriate).

6.4.8 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.

6.4.9 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 and must provide a net benefit for biodiversity;
- 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: Ecosystems need to be in a healthy condition to function effectively, to deliver a range of important ecosystem services. Planning decisions 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. Planning for the long term management of retained habitats is key to maintaining condition through for example, the use of planning obligations;

- Connectivity: to take opportunities to develop functional habitat and ecological networks within and between ecosystems and across landscapes, building on existing connectivity and quality and encouraging habitat creation, restoration and appropriate management. 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; and
- Adaptability to change: primarily in the form of climate change, for both species (diversity) and ecosystems requires action to protect the extent, condition and connectivity of habitats, features and ecological networks. Development plans, planning proposals and applications which build on protecting designated sites and securing and enhancing green infrastructure will be key ways of addressing the attributes of ecosystems resilience identified in the Environment Act as well as facilitating social and economic resilience aspirations of the Well-being of Future Generations Act.

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.