



Bat Emergence Survey

Garage Opposite Church Road, Church View, Worthenbury, Wrexham, Wales, LL13 0AW

Mr Graham Mcloughlin

Status	Issue	Name	Date
Draft	1	Elen Griffin BSc (Hons), MRSB, Consultant	22/06/2021
Reviewed	1	Louise Sawrey (Hons), MRSB, Consultant	23/06/2021
Draft	1	Elen Griffin BSc (Hons), MRSB, Consultant	23/06/2021
Final	1	Elen Griffin BSc (Hons), MRSB, Consultant	23/06/2021

Arbtech Consultant's Contact details:

Elen Griffin BSc (Hons), MRSB
Consultant

Tel: 07842311114 Email: elengriffin@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 assessments made assume that the sites and facilities will continue to be used for their current purpose without significant change. 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 Mr Graham Mcloughlin to undertake a single Bat Emergence Survey at the site Garage Opposite Church Road, Church View, Worthenbury, Wrexham as per the recommendation of the Preliminary Roost Assessment Report (Arbtech Consulting Ltd, 2021). The survey was completed on 17/06/2021. The aim of the assessment was to confirm the presence or likely-absence of a bat roost and to provide a current status on all survey features. This includes providing evidence for species, numbers and levels of activity, to identify any entrance and egress points, and to gain an understanding of the activity of bats using the site in the local landscape.

No bats were seen emerging from the building during the survey and as such there is no confirmed roost within the building. A limited amount of bat activity was recorded within the area surrounding B1. Therefore there are not anticipated to be any impacts on bats as a result of the proposed works. The surveys undertaken to date in and around Garage Opposite Church Road, Church View, Worthenbury provide sufficient information to inform a planning application. A European Protected Species Mitigation Licence (EPSML) **will not be required** to enable the proposed works to be lawfully undertaken.

In the unlikely event that bats are unexpectedly found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted to seek further advice.

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 Surveyors 6

 2.4 Limitations 7

3.0 Results and Evaluation 8

 3.1 Survey Results 8

4.0 Conclusions, Impacts and Recommendations..... 9

 4.1 Informative guidelines..... 9

 4.2 Evaluation 9

5.0 Bibliography 11

Appendix 1: Survey Plan..... 12

Appendix 2: Proposed Site Plan 13

Legislation and Planning Policy related to bats 14

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was commissioned by Mr Graham Mcloughlin to undertake a single Bat Emergence Survey at the site Garage Opposite Church Road, Church View, Worthenbury, Wrexham as per the recommendation of the Preliminary Roost Assessment Report (Arbtech Consulting Ltd, 2021). The survey was completed on 17/06/2021. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

This survey was completed following recommendations made in the Preliminary Roost Assessment report carried out by Elen Griffin in June 2021 (Arbtech Consulting Ltd, 2021).

1.2 Site Context

The site is located at National Grid Reference SJ 41944 46240 and has an area of approximately 0.01ha. The site surveyed consists of one single-storey garage building.

1.3 Scope of the report

This report provides a description of the bat activity observed and recorded during the survey. The aim of the assessment was to determine the presence or likely-absence of bats, and to gain an understanding of how bats use the site.

Robust data has been collected, following good practice guidelines, to inform an assessment of the potential impacts of the proposed development on bats, and inform mitigation and enhancements. This report provides information on constraints to the proposals as a result of roosting bats, and summarises any mitigation required to achieve planning permission, and statutory consent to comply with wildlife legislation.

To achieve the aims of the assessment, the following steps have been taken:

- A desk study has been carried out - please refer to the Preliminary Roost Assessment survey report (Arbtech Consulting Ltd, 2021).
- Field survey(s) has been undertaken, including an external survey and internal inspection.
- 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 showing the location of each surveyor and the bat activity observed and recorded during each survey, proposed plans in Appendix 2 (where available), and a summary of relevant legislation is presented in Appendix 3.

1.4 Project Description

The development proposal is for the “construction of two new two storey dwellings”. A planning application has been submitted to Wrexham County 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 database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

2.2 Site Survey methodology

The survey methods were informed by the recommendations presented in the Preliminary Ecological Appraisal survey report (Arbtech Consulting Ltd, 2021). This survey identified the following survey requirements in line with best practice:

“The building surveyed was, for the most part, in good condition. A low number of potential roosting features were identified in the form of damaged soffit boxes, missing mortar and raised roof tiles. Due to the presence of potential roosting features and the presence of suitable bat commuting and foraging habitat B1 is considered to hold “low habitat value” (Collins, 2016) for supporting roosting bats.”

The surveys involved surveyors positioned around the building ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the building identified as providing suitable access points to bat roosts. The location of each surveyor during each survey is shown in Appendix 1. Each surveyor was assigned an area of the building to observe for the duration of the survey. Surveyors used heterodyne bat detectors and Echo Meter Touch detector connected to an iPad. The Echo Meter Touch includes an auto ID function for bat species, however this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a handheld radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building.

In accordance with the latest bat survey guidelines (Collins, J. 2016) dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility. Dawn re-entry surveys commenced 2 hours before sunrise and continued until 15 minutes after sunrise.

Surveys were completed during optimal weather conditions i.e. when temperatures were above 10°C, with no heavy rain or strong winds, as these adverse weather conditions can impact upon bat emergence and foraging behaviour.

2.3 Surveyors

The lead surveyor is Elen Griffin BSc (Hons), MRSB, Consultant accredited agent to NRW licence number: 79422:OTH:CSAC:2018 and was assisted by Jonathon Roberts, an experienced surveyor with several years of bat survey experience. Two surveyors were used to provide sufficient cover of the building during the survey. The designated position of each surveyor during the survey is detailed in the tables in Section 3.1 below and shown on the plan in Appendix 1.

2.4 Limitations

This survey follows best practice guidance to confirm presence/likely-absence of roosting bats and where present, characterise the roost. However, this information is collected at finite dates and times, and provides an indication of the conditions on site only. The use of the building, and the site as a whole by bats, at all times cannot be established based on this information.

There were no specific limitations to the survey.

3.0 Results and Evaluation

3.1 Survey Results

The results of the survey are provided in the table below.

Table 1: Survey results

Date		17/06/2021
Start and End Times		21:20 – 23:10 Sunset: 21:40
Weather Conditions		Start: Temp: 14°C Relative Humidity: 69% Cloud Cover: 10% Wind: 6mph Rain: None End: Temp: 12°C Relative Humidity: 76% Cloud Cover: 15% Wind: 6mph Rain: None
Surveyor (position) As shown in Appendix 1		Elen Griffin BSc (Hons), MRSB - accredited agent to NRW licence number: 79422:OTH:CSAC:2018 with over 4 years bat surveying experience (Position 1 – observing the northern eastern elevation and roof structure of B1) Jonathon Roberts - surveyor with three years of bat surveying experience (Position 2 – observing the south west elevation and roof structure of B1)
Building Reference	Surveyor Position	Notes/observations:
B1	1	The first bat activity recorded was a pass by a soprano pipistrelle at 22:07 which flew from the southeast to the northeast. A common pipistrelle pass was recorded flying in the same direction at 22:12. A further 8 passes from common and soprano pipistrelles were recorded between 22:18 and 22:28. A noctule was seen flying from east to west at 22:22. Feeding activity by a common pipistrelle was recorded above the surveyor at 22:29. A further 14 passes and distant passes by common and soprano pipistrelles were recorded between 22:30 and 23:03. The last bat activity was a distant pass by a common pipistrelle which was heard but not seen at 23:05 No bats were seen emerging from B1. No further bat activity was recorded during the survey.
B1	2	The first bat activity was a common pipistrelle which was seen flying from in front of the surveyor towards the northeast. A noctule was seen flying overhead at 22:22 likely the same as recorded by surveyor 1. Approximately 22 common and soprano pipistrelle passes were recorded between 22:24 and 22:58. behind the surveyor over the southern elevation of B1 at 21:57. The last bat activity was a common pipistrelle pass which flew from the northeast in front of the surveyor. No bats were seen emerging from B1. No further bat activity was recorded during the survey.

4.0 Conclusions, Impacts and Recommendations

4.1 Informative guidelines

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Mitigation Licence (EPSML) application to Natural Resources Wales.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

The surveys undertaken to date in and around B1 provide sufficient information to inform a planning application. A European Protected Species Mitigation Licence (EPSML) **will not be required** to enable the proposed works to be lawfully undertaken. Appropriate justification for this assessment is provided in Section 3 of this report.

4.2 Evaluation

The following recommendations are provided taking the desk based assessment and site survey results into account.

Table 2: Evaluation of building on site

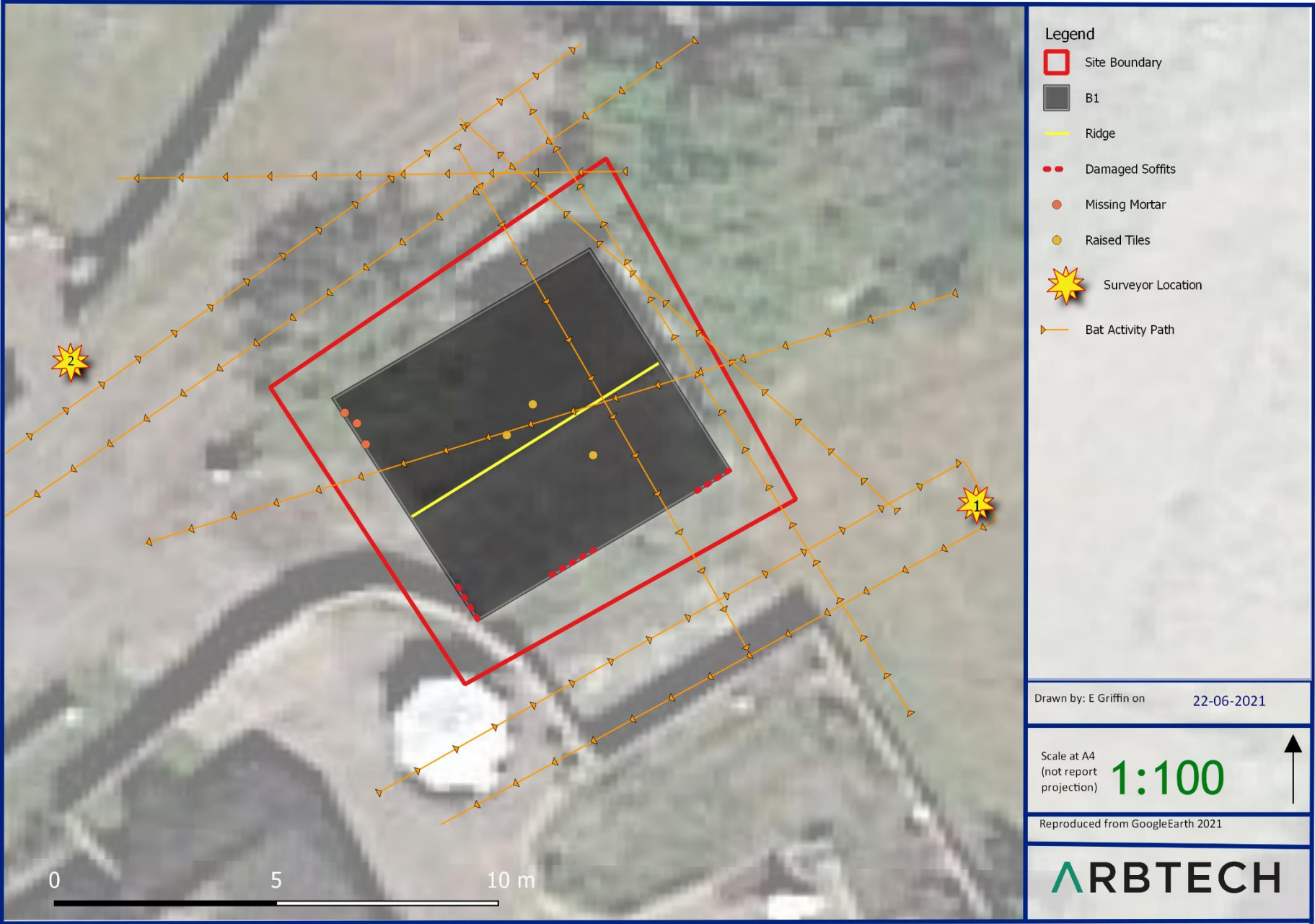
Ref	Survey conclusions	Foreseen impacts	Recommendations / Mitigation	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2018)
B1	No roost confirmed within the building.	No bat roost confirmed in B1. No bats were seen to be emerging from B1. Bat activity by common and soprano pipistrelles was recorded within the area surrounding B1.	In the unlikely event that bats are unexpectedly found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted to seek further advice.	The installation of a minimum of two Woodcrete bat boxes or similar on each of the proposed dwellings will provide additional roosting habitat for bats e.g. • 2F Schwegler Bat Box • 1FF Schwegler Bat Box • 2FN Schwegler Bat Box. Bat boxes should be positioned 3-5m above ground level facing in a south/south-westerly direction with a clear flight path to and from the entrance. OR The installation of two bat tubes into each of the proposed dwellings e.g. • Habibat bat box • Schwegler 1FR bat tubes Bat tubes should be inserted into the fabric of the building during construction positioned at the eaves on the southern ends of the east and west elevations, so they are facing the surrounding greenery.

5.0 Bibliography

- Arbtech Consulting Ltd (2021). Preliminary Roost Assessment Survey – Garage Opposite Church Road, Church View, Worthenbury, Wrexham, Wales, LL13 0AW.
- Collins, J. (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Google Earth (2021) accessed on 22/06/2021.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2019)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

Appendix 1: Survey Plan



Appendix 2: Proposed Site Plan



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 (February 2021)

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 SoNaRR, Area Statements and species records from Local Environmental Record Centres should be taken into account. Development plan strategies, policies and 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 and non-statutorily designated sites are properly protected and managed;

safeguard protected and priority 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, including peat; and

secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

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.

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. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity. In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the following aspects:

- diversity between and within ecosystems;
- the connections between and within ecosystems;
- the scale of ecosystems;
- the condition of ecosystems including their structure and functioning; and
- the adaptability of ecosystems.

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

- the list of habitats and species of principal importance for Wales, published under Section 7 of the Environment (Wales) Act 2016;
- the SoNaRR, published by NRW; and
- 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 must 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 Section 6 Duty and building resilience through the planning system includes addressing:

Diversity: to ensure mechanisms are in place to minimise further loss and where circumstances allow for species' populations to expand and recolonise their natural range (former range) or adapt to future change. More diverse ecosystems are more resilient to external influences (this includes biological, geological and physical diversity on a site). This means development should not cause any 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 identification of potential habitat, 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 decisions should incorporate measures which seek the creation, restoration and appropriate management 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.