



Preliminary Roost Assessment Survey

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

Mr Graham Mcloughlin

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Executive summary

Arbtech Consulting Limited was commissioned by Mr Graham Mcloughlin to undertake a Preliminary Roost Assessment (PRA) at Garage Opposite Church Road, Church View, Worthenbury, Wrexham. The survey was completed on 02/06/2021. 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 proposal is for the “construction of two new two storey dwellings”. A planning application has been submitted to Wrexham County Council.

Summary survey and recommendations

The site lies within the village of Worthenbury, located south east of Wrexham. The landscape is dominated by residential properties with associated gardens and agricultural fields. There are small, scattered woodland copses and tree lines around the area, which could be used for foraging and commuting. Worthenbury Brook is located to the west of the site which is likely to provide abundant insect foraging for bat species.

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.

Therefore it is considered that **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. 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 Resources Wales once planning permission has been granted. At least one of the additional surveys will need to be completed during the peak survey period.

As old birds’ nests were located within B1, works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.

This 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 was commissioned by Mr Graham Mcloughlin to undertake a Preliminary Roost Assessment (PRA) at Garage Opposite Church Road, Church View, Worthenbury, Wrexham. The survey was completed on 02/06/2021. 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 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 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 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 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.gov.uk database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

To conform to best practice guidelines biological records data (BRD) within a 1km radius of the site has been obtained from the local biological records centre - Cofnod - North Wales Environmental Information Service. 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 Elen Griffin BSc (Hons), MRSB, Consultant - accredited agent to NRW licence number: 79422:OTH:CSAC:2018.

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 baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected 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.

A biological records data search was not commissioned by the client, therefore historical records of protected species have not been factored into this report. The recommendations in

this report aim to compensate for the lack of biological records

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of the desk study results is provided below; full details are included in Appendix 3.

3.2 Designated sites

Details of any statutory and non-statutory designated sites within a 1km radius of the survey site, including their reasons for notification, are provided in Table 4 below.

Table 3: Designated sites within 1km 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		
River Dee Site of Special Scientific Interest (SSSI)	~768m north west	<i>The main channel of the River Dee lies within both Wales and England, and is notified as two separate SSSIs – the Afon Dyfrdwy (River Dee) SSSI in Wales and the River Dee (England) SSSI in England. The features for which the SSSIs are notified, in particular migratory fish, depend upon the whole river ecosystem. Salmon, otter, club-tailed dragonfly, and fluvial geomorphology are of special interest in both Wales and England.</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 habitat is described below:

The site lies within the village of Worthenbury, located south east of Wrexham. The landscape is dominated by residential properties with associated gardens and agricultural fields. There are small, scattered woodland copses and tree lines around the area, which could be used for foraging and commuting. Worthenbury Brook is located to the west of the site which is likely to provide abundant insect foraging for bat species.

Priority habitats within 1km of the site are listed in Table 4.

Table 4: priority habitat inventory within 1km (Magic.gov.uk):

Habitat	Closest distance from site
National Forest Inventory	~372m east

* 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 1km 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 - North Wales Environmental Information Service (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 within 2km of the site*

Taxon Group	Common name	Scientific binomial	Record details
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 1km radius of the site is yet to be 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.

3.5 Field Survey Results

The site consists of the site consists of one single-storey garage building with a small associated overgrown garden area to the rear and is illustrated in the map in Appendix 1. The weather conditions recorded at the time of the survey are shown in Table 6.

Table 6: Weather conditions during the survey

Date: 02/06/2021	
Temperature	15°C
Relative Humidity	87%
Cloud Cover	10%
Wind	3mph
Rain	None

3.6 Site Feature descriptions and photos

B1 Exterior

B1 - south western elevation (pictured opposite).

B1 is a brick built single-storey detached garage building. The roof is clad in slate tiles. Some minor tile lifts were noted along the north western elevation. The soffits and bargeboards are constructed of wood, a number of areas of damage were identified which could provide potential roosting features or access into B1 for bats.

The brickwork is in excellent condition with no missing mortar which could provide suitable roosting features for crevice dwelling bats.

B1 – north western elevation roof (pictured opposite).

A low number of lifted tiles (denoted in red) were identified along the roof.



B1 - south western elevation gable (pictured opposite).

There are areas of missing verge mortar along the south wester gable which could provide potential roosting features for crevice dwelling species such as pipistrelle bats.



B1 - south western elevation soffit box (pictured opposite).

There are a number of areas of damage to the soffit boxes which could provide potential roosting features for bats or provide internal access to B1.



B1 Interior

B1 – interior of B1 (pictured opposite)

There is no loft space within B1. The roof structure is built from modern timber beams including the ridge beam. The roof is lined with bitumen felt which is generally in good condition.

The beams were heavily cobwebbed which can indicate lack of recent flying activity by void dwelling species such as brown long-eared bats.



B1 Evidence of bats

Internally there was no evidence of bat use within B1 and no evidence was found in the storage container. In addition 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.

B1 Breeding birds and other incidental observations

Evidence of old swallow nests were identified within B1.



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 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) 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/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 7: Evaluation of buildings on site

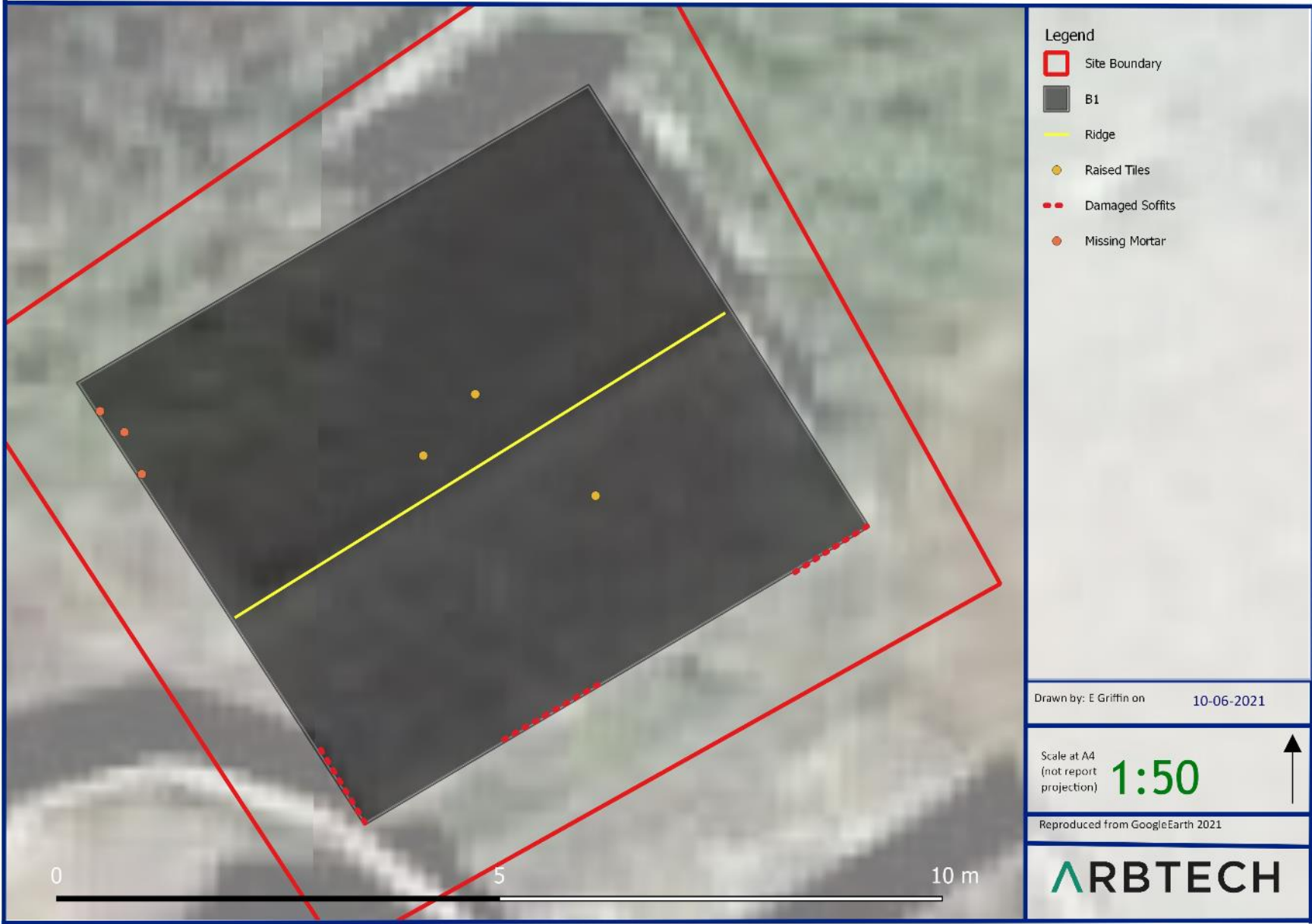
Ref	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2018)
B1 - Bats	Due to a low number of potential roosting features were identified and the presence of suitable bat commuting and foraging habitat B1 is considered to hold “ low habitat value ” (Collins, 2016) for supporting roosting bats.	As the proposals include the demolition of this building, 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 Resources Wales 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	Evidence of nesting birds in the form of disused swallow nests were identified within B1.	Active nests could be destroyed during the works.	Demolition works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building and vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.	Install three Schwegler or similar bird boxes on the retained building on site e.g. - Schwegler No 17 swift nest box - Schwegler 1SP Sparrow Terrace - Schwegler 1B nest boxes - Schwegler 2H Robin Boxes Schwegler 1B and Schwegler 2H 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 a tree trunk where foliage will not obscure the entrance hole.
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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 09/06/2021.
- Magic database (2020) <http://www.magic.gov.uk/MagicMap.aspx> accessed on 09/06/2021.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Appendix 1: Survey Plan



Appendix 2: Proposed Site Plan

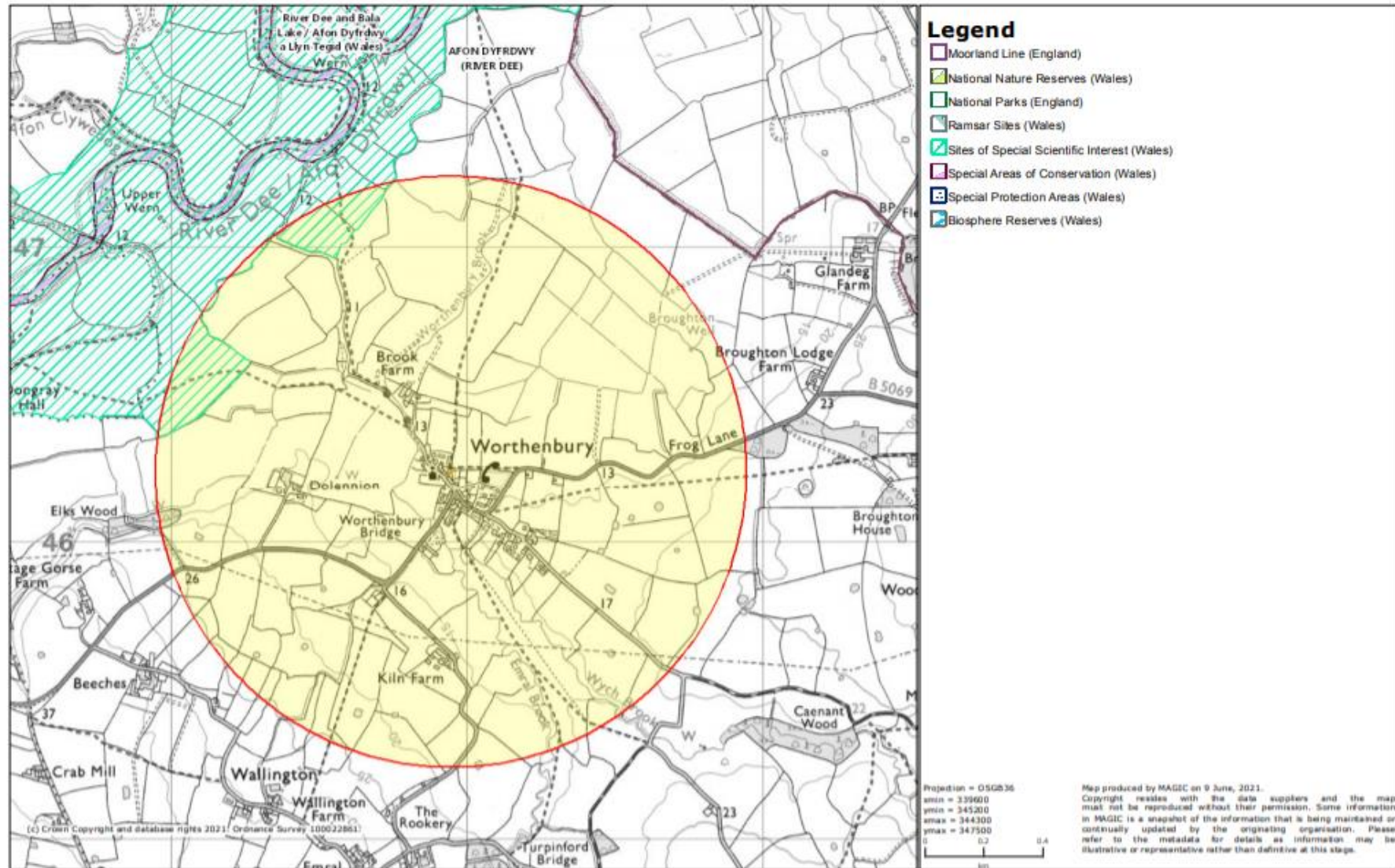


Appendix 3: Desk Study Information

Full historical records can be provided on request.

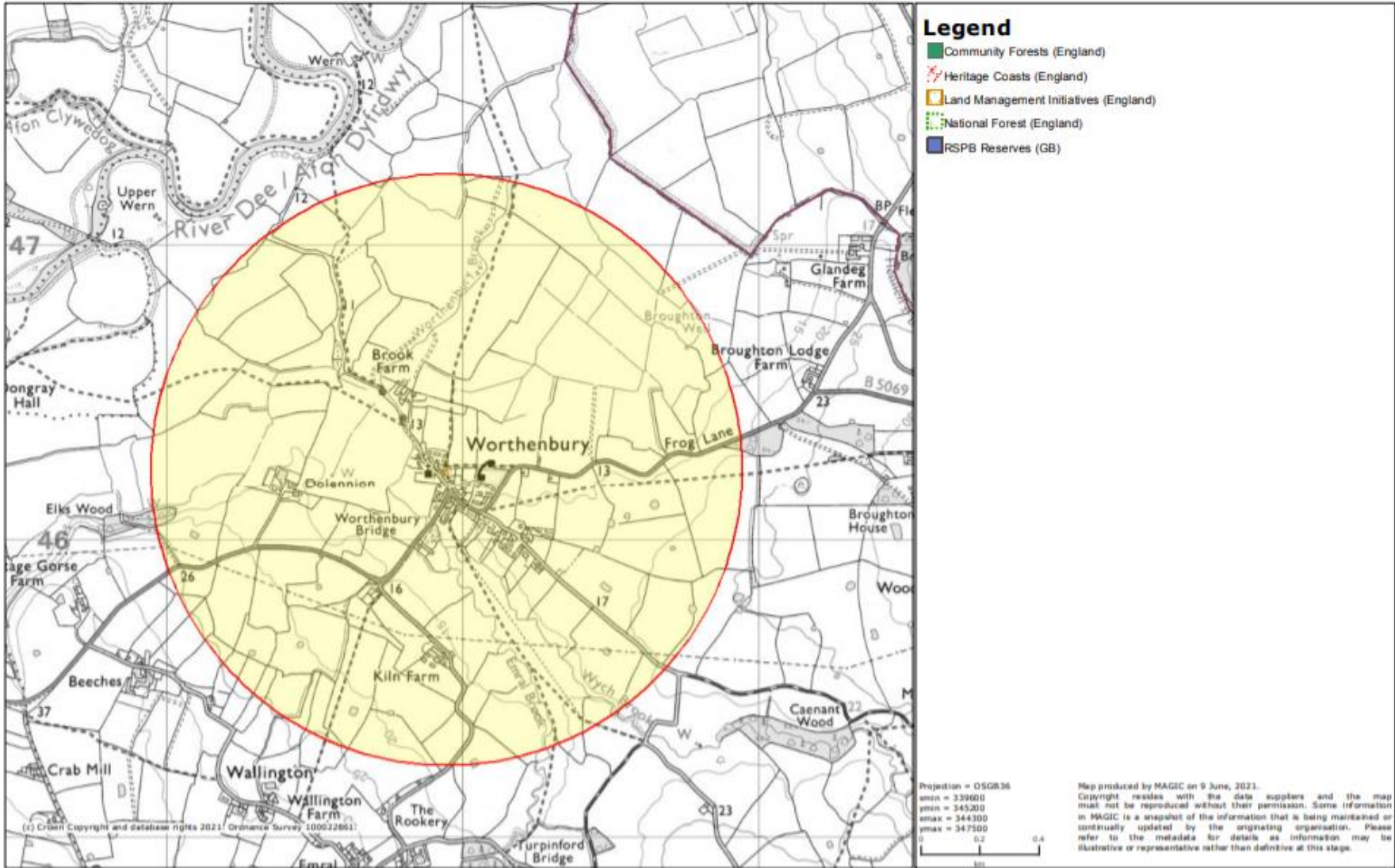
MAGiC

Statutory Designated Sites



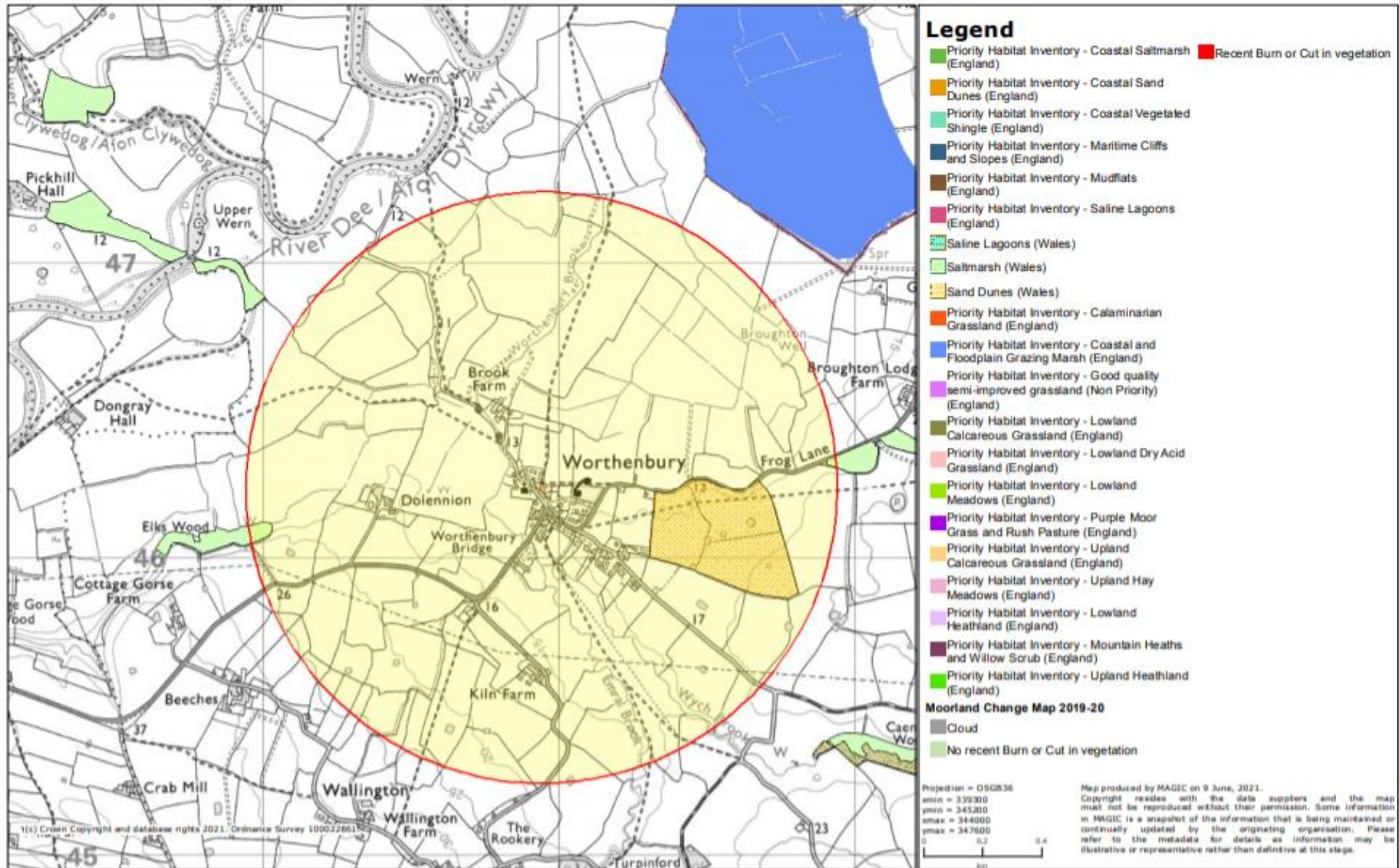


Non-Statutory Designated Sites



MAGiC

Habitats



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 (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

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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.