



MIDLAKE HOUSE, GRESFORD, WREXHAM:

BAT AND NESTING BIRD SURVEYS

DATE	ECOLOGIST	APPROVED	VERSION	COMMENTS
05/10/2021	Jane Kingsley	Keymar Wake	V1	

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Executive Summary

Site	Midlake House, Hillock Lane, Gresford, Wrexham, LL12 8LY, Approx. OS Grid Ref: SJ35668 54621
Surveyors	Jane Kingsley and Keymar Wake
Proposed work	Single storey extension and alteration of roof space into living accommodation.
Area/structures affected	The roof of the existing property and the north, east and western elevations where the new single storey extension is proposed.
Type of survey	PRA and 1 st Emergence Survey (27/07/2021); 2 nd Emergence Survey (19/08/2021); Static (19/8/2021-07/09/2021); Bat dropping DNA Analysis
Main results of survey	• The building has moderate potential for bats with several access points into loft space and some crevice roosting opportunities • A number of droppings (<20) were found scattered throughout the loft area, they were sent for DNA analysis and came back as brown long-eared (<i>Plecotus auritus</i>) • No bats emerged during the emergence surveys; There was activity within the site by common and soprano pipistrelle, Noctule and <i>Myotis</i> sp. • A static recorder left in the building for two weeks recorded brief <i>Myotis</i> calls (characteristic of whiskered/ Brandt's) for a five minute period on one day only
Survey conclusions	• The building is being used as a temporary or occasional roost/ resting perch for an individual/small number of <i>Myotis</i> bats • The building has been used as an occasional/transitional roost by an individual/low number of brown long-eared bats outside the main activity season in the past • The building has potential to be used by a small number of crevice dwelling bats • A known bat roost and nesting bird habitat will be lost as part of the works. RAMs are recommended to reduce disturbance of species within the building during the works
RAMs and Mitigation	• A licence will be required from NRW before any works can commence. • Bat and bird boxes will be erected around the site to enhance the site for these species • Reasonable avoidance and mitigation measures will be implemented at all times

Contents

Executive Summary.....	2
1.0 Introduction	4
2.0 Site Description	5
3.0 Methodology.....	6
4.0 Survey Results: Preliminary Roost Assessment and Activity Surveys.....	7
5.0 Discussion and Evaluation.....	16
6.0 Mitigation, Compensation and Reasonable Avoidance Measures (RAMs)	20
7.0 Legislation	26
8.0 References and Information Sources.....	28

1.0 Introduction

- 1.1 Enfys Ecology Limited were commissioned by Emily Cowan of SM Architectural Ltd, to carry out a Preliminary Roost Assessment (PRA), two dusk emergence surveys and a static detector survey of Midlake House, Gresford. The proposed works involve alterations to the roof and extension to the main house.
- 1.2 The surveys were commissioned to determine whether the proposed works would affect protected species, specifically bats and nesting birds. The survey work to inform this report was carried out over July and August 2021. This report is valid for a period of 18 months from the last date (August 2021) in accordance with best practice.
- 1.3 All British bats (and roost sites) are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended). In addition, all bats are classified as European Protected species by The Conservation of Habitats and Species Regulations 2010 (as amended). Under this legislation, it is an offence to kill, injure or disturb a bat, or to destroy any place used as a shelter by bats.
- 1.4 All birds (and their nests) are legally protected under the Wildlife and Countryside Act 1981 and it is an offence to intentionally take, damage or destroy the nest of any wild bird while it is in use or being built (as well as kill or injure wild birds or their eggs).
- 1.5 Should evidence of bats be found and it is deemed likely that the proposed works will disturb them; a licence from Natural Resources Wales (NRW) must be obtained before any work may proceed.

2.0 Site Description

2.1 Survey area

- 2.1.1 The site was located on the southern edge of the village of Gresford and comprised a large plot with a main house positioned towards the northern boundary. To the west of the house was gravel hardstanding, used as a carpark. The remainder of the plot was predominately grass with hedgerows and a few scattered trees along the boundaries. Immediately to the south, east and west of the site lay pastoral farmland, and on the northern boundary was a fence with further residential properties beyond. There was a small block of woodland approx. 70m to the west. The survey area is shown in Figure 2.1.

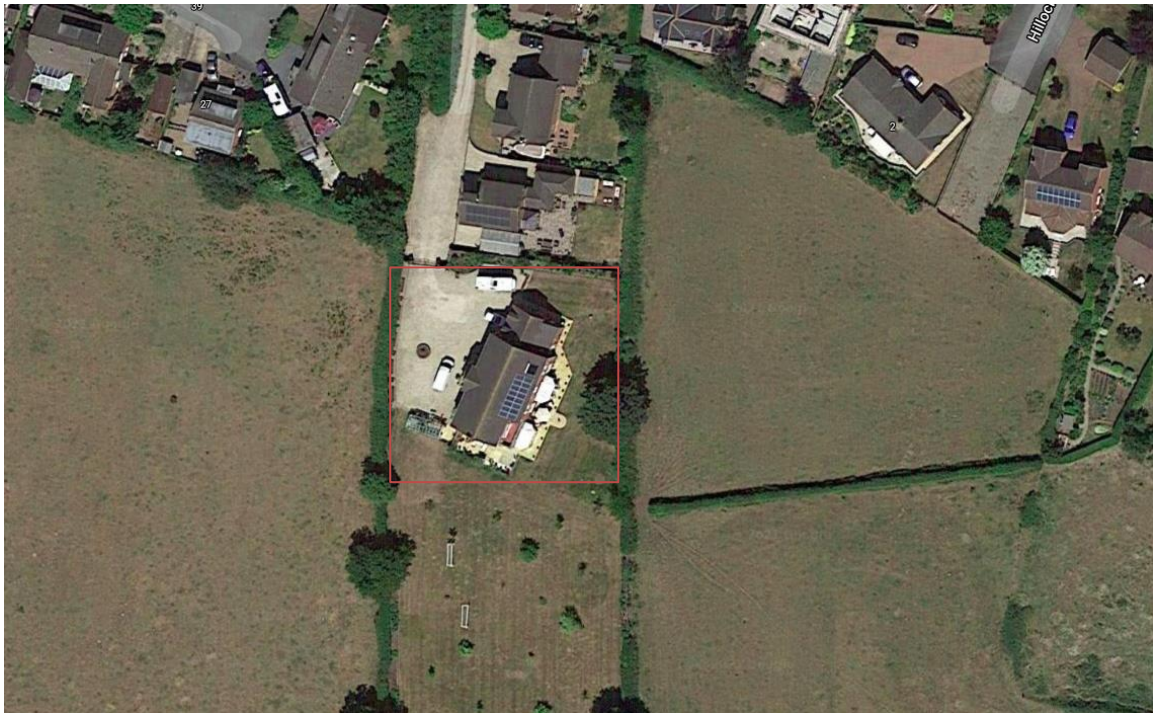


FIGURE 2.1. THE SITE AND SURVEYED BUILDING (RED). BASE IMAGE © GOOGLE 2021

- 2.1.2 The surrounding area to the north of the site comprises the village of Gresford, made up of residential and commercial buildings with scattered trees and hedgerows. The wider surrounding landscape to the south is rural; primarily pastoral farmland with a few larger blocks of woodland, both broadleaf and conifer both approx. 630m to the north and 690m to the east respectively. The town of Wrexham is approx. 2.5m southwest of the site. The wider area around the survey boundary is shown in Figure 2.2.

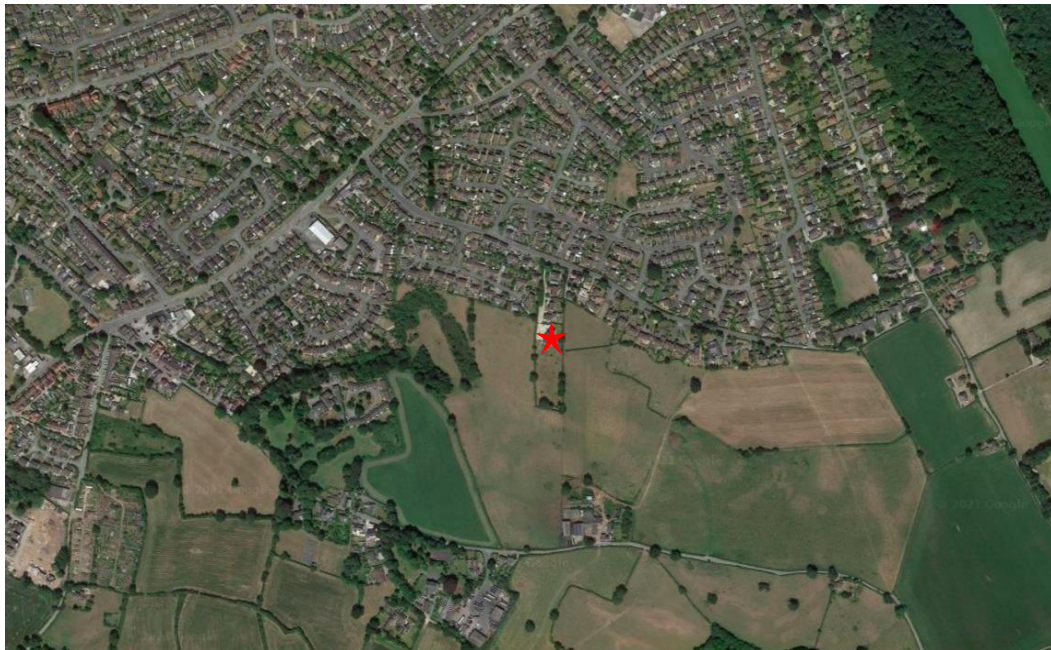


FIGURE 2.2. THE WIDER LANDSCAPE - THE SURVEY SITE IS SHOWN BY RED STAR. BASE IMAGE © GOOGLE 2021

2.2 *Designated and notable sites*

- 2.2.1 The site is located approx. 360m north of Midland Meres and Mosses (Phase 2), designated a SSSI Ramsar nature reserve due to its lowland open water and peat reserves.

3.0 Methodology

3.1 *Preliminary Roost Assessment*

- 3.1.1 The building was assessed for any signs of bats; these include droppings, feeding remains, and other indicative marks, plus features of potential use to bats such as crevices, cracks and other holes, and any potential access points into the building. High powered torches were used to inspect any identified features, and an endoscope was used to investigate any gaps or crevices, where appropriate. Both the exterior and interior of the building were examined.

3.2 *Survey Details*

- 3.2.1 The external and internal building inspections were carried out on the 27th July 2021 by Keymar Wake (accredited agent on Bat Licence No. licence S087351/1) and Jane Kingsley. Potential roost assessments were carried out following the guidelines set by the Bat Conservation Trust, 'Bat Surveys – Good Practice Guidelines' (Collins, J. 2016). Photographic evidence was taken where necessary.

3.3 *Dusk Emergence and Static Detector Surveys*

- 3.3.1 Two activity surveys were carried out; the building subject to works was monitored by lead surveyor Keymar Wake and five assistant surveyors on the first dusk emergence and Keymar Wake and five assistant surveyors on the second dusk emergence survey; surveyors were positioned to be able to observe all sides of the buildings that showed potential for bats, using Anabat Scout and Bat Box Duet bat detectors. Records were taken of any bats observed emerging from/ re-entering the buildings, and of any other bat activity taking place in the area during the survey. The dusk surveys began approximately half an hour before sunset and continued for 90 minutes after sunset. The activity surveys took place on the 19th August and the 7th September 2021.
- 3.3.2 An Anabat Express was positioned inside the main loft space between 19th August and 7th September 2021 to record any bats using the loft space within this period.

3.4 *Limitations*

- 3.4.1 Due to the thick insulation within the loft space, it was not possible to be certain there were no light gaps between the roof and the walls. In addition, it was not possible to access the loft space that continued into the projected gable front on the western elevation. However, it is considered that sufficient survey effort was carried out to determine how the building was used by bats and these limitations do not have a negative impact on the results and conclusions within this report.
- 3.4.2 Bats are highly mobile animals and it is possible that they may move into a building after the survey has occurred. Therefore, absence of bats cannot be absolutely guaranteed. The surveys were carried out in July and August 2021, which is within the appropriate survey window for building survey as per the 2016 bat survey guidelines (Collins, 2016).

4.0 **Survey Results: Preliminary Roost Assessment and Activity Surveys**

4.1 *Building Descriptions*

- 4.1.1 The building proposed for works is a two-storey residential house (approx. 24m x 12m x 8m high) situated at the northern end of a large plot of land. The main house had pitched roof with a two-storey central front gable with hipped roof on the western elevation. On the northern elevation was an adjoining double garage with a dormer roof. To the rear were two upvc and glass conservatories. The descriptions of the external and internal areas (where applicable) are described in Table 4.1 below.

TABLE 4.1: BUILDING DESCRIPTIONS

Building Description			
External Description	External Photo	Internal Description	Internal Photo
The building comprised a detached, 2 storey, red brick house built on a large plot in 2003. The main roof was pitched with concrete tiles and ridge. End caps on the gable ends on the main house and the garage were of a continuous dry verge system. The fascia's were wooden with plastic guttering. On the southern elevation was a single chimney breast that finished at the apex of the gable end.	 WESTERN ELEVATION  EASTERN ELEVATION	The loft space was continuous and ran the length of the main house (approx. 17m x 11m). The apex was 3.5-4m in height with a wooden frame. Gable ends were breeze block. On the eastern elevation, the roof space continued into the front gable. Underneath the concrete tiles was a breathable membrane lining.	 

Midlake House; Bat and Nesting Bird Surveys

On the western elevation, a two-storey front gable projected forwards of the main house providing a balcony and porch below.

Both the eastern and western elevations were fully glazed; the eastern also had two single storey, UPVC conservatories.

On the northern elevation of the house was an adjoining double garage that did not meet the roof of the main house. The second floor extended into the roof and there was no loft space. The western roof pitch had two dormer windows.



SOUTHERN ELEVATION



NORTHERN ELEVATION

Where visible, the loft floor was boarded with the majority having a covering of insulation



4.2 *PRA Results*

4.2.1 *External*

The building was in good condition as were the roof tiles, with no sign of raised roof or ridge tiles. The walls were also in good condition with no obvious gaps in the brick work or mortar.

The continuous dry verge was in good condition; however, the end caps were missing on all dry verges, leaving the potential for bats to gain entrance under the roof tiles. On the northern elevation, the gable fronted dormer windows above the garage offered roosting opportunities for crevice dwelling bats where they tied in with the roof.

On all elevations the house had flush eaves with fascia boards in close proximity to the walls and with no soffit boards. In many areas, there were gaps behind the fascia where it appeared that mortar was missing, these were large enough to offer further roosting opportunities for bats. The lower part of the chimney on the southern elevation had gaps in places between the dry verge and the brickwork, again, offering roosting opportunities for birds and bats.

4.2.2 *Internal*

No light gaps were evident in the loft but there were a number of gaps in the membrane lining, one was a tear toward the southern elevation and another was around the flue towards the northern elevation. In many areas, the lining appeared to be loose. There were no gaps on the northern gable but the southern gable had gaps around the breezeblock into the cavity wall.

Low numbers (>20) of bat droppings were found scattered throughout the attic; the droppings did not appear to be recent and had started to dry out with a dust covering.

4.2.3 The locations of potential features and evidence of bats are shown in Figure 4.2 and are described in Table 4.2.

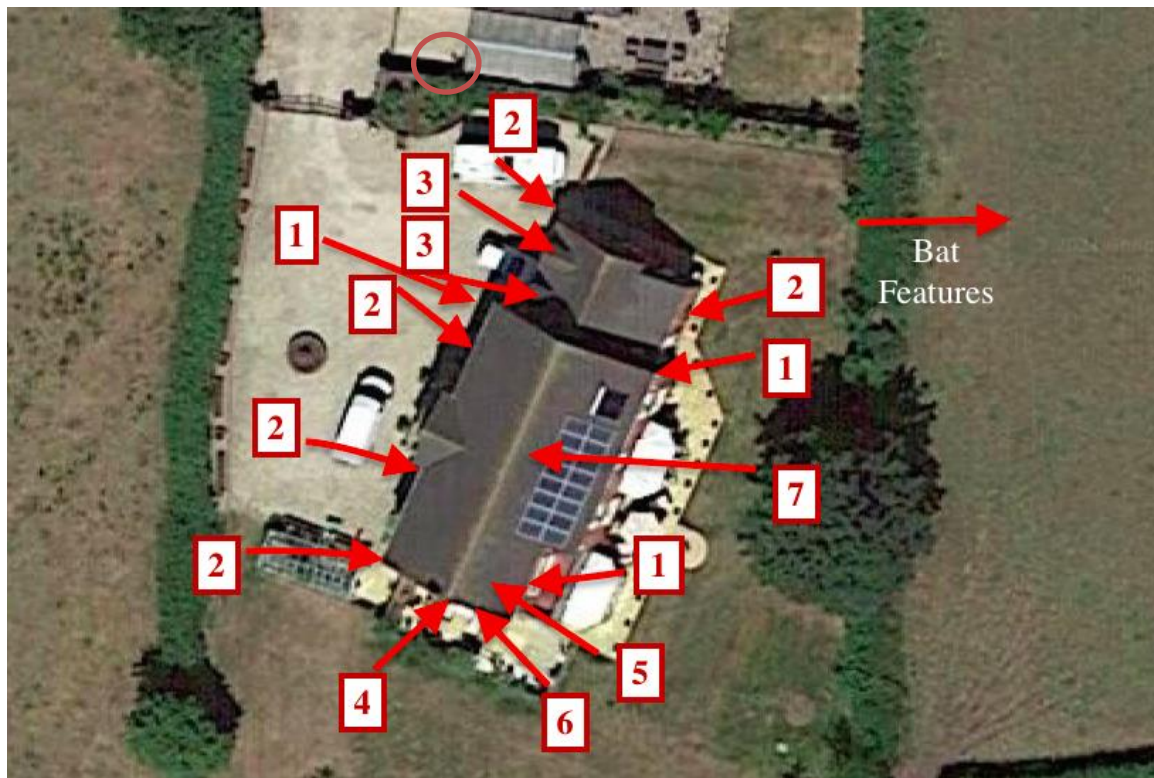
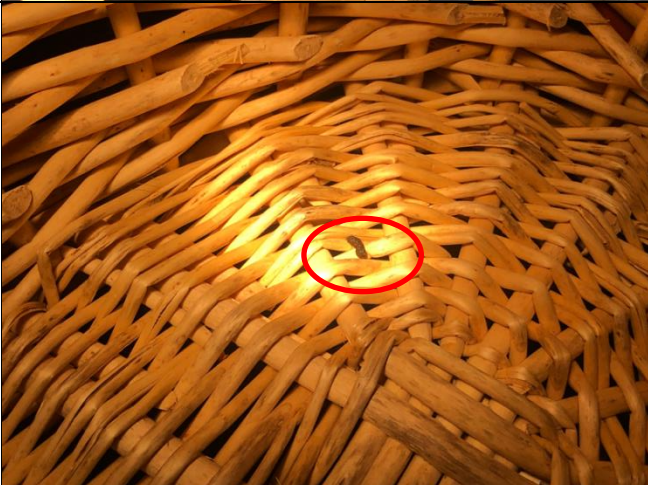


FIGURE 4.2 LOCATIONS OF POTENTIAL BAT FEATURES (NUMBERS RELATE TO FEATURES IN TABLE 4.2 BELOW)
BASE IMAGE © GOOGLE 2021

TABLE 4.2 POTENTIAL FEATURES FOR BATS AND BIRDS (FEATURE NUMBERS REFER TO FIGURE 4.2)

Feature	Description	Example Photos
1	Missing end caps on all of the continuous dry verge giving roosting potential to crevice dwelling bats and access for birds and bats to the loft space	

Feature	Description	Example Photos
2	Missing mortar behind fascia boards to some elevations	
3	There were roosting opportunities for crevice dwelling bats under the lead flashing, where the gable fronted dormer windows above the garage tied in with the roof.	
4	The chimney on the southern elevation had gaps between the brickwork and the continuous dry verge. These could provide roosting potential for birds and bats.	

Feature	Description	Example Photos
5 – Internal Loft Space	There were holes in the breathable membrane lining and in some areas the lining was loose.	
6 - Internal Loft Space	On the southern gable end, were gaps from the loft space into the cavity wall. No gaps were seen on the northern gable.	
7	A small number of bat droppings (<20) were observed scattered throughout the loft space.	

4.2.4 Bat dropping analysis

A sample of the bat droppings found in the loft was sent off for DNA analysis and the results showed that the droppings belonged to the Brown Long Eared (BLE) bat (*Plecotus auritus*).

4.3 Activity Survey Results

4.3.1 As there were PRF's, access points and droppings found in the PRA survey; and the surrounding pastoral farmland and hedgerows provided connectivity for bats to the area; two emergence and one static survey were carried out to determine if, what species, and how, bats were using the site. A static recording device (Anabat Express) was placed in the loft to record data between the 19th August and 7th September. Table 4.3 provides details of the emergence surveys with timings and weather conditions.

TABLE 4.3 – SUMMARY OF SURVEY DETAILS

Survey Type	Date	Start time	Sunset / sunrise time	End time	Temp. at start	Weather
Dusk Emergence	27/07/2021	20:43	21:13	22:40	15°C	95% cloud cover, rain at start of survey until 21:20 no wind
Dusk Emergence	19/08/2021	20:01	20:31	22:00	18°C	90% cloud cover, dry, no wind

4.3.2 First Emergence Survey

The results of the first dusk emergence survey are detailed in Table 4.4.

TABLE 4.4 – SUMMARY OF FIRST EMERGENCE SURVEY ACTIVITY

Time	Species	Activity	Emerge?	Location
21:45 – First bat	Noctule	Passing through site	No	Recorded on the detector
21:38-21:54	Soprano Pipistrelle (S.pip)	Five passes recorded at south of site	No	Flying west along hedge
21:48	Soprano Pipistrelle (S.pip)	Commuting	No	From north over the building and flew west

Time	Species	Activity	Emerge?	Location
21:50 – end of survey	Noctule	Foraging and passing	No	Whole site, particularly along hedge lines to east and west and around trees in southern garden
22:25 22:32 22:36	Myotis sp. Characteristics of Brandt's/Whiskered	3 passes	No	Recorded on the detector to the south of the site only
22:29	Common Pipistrelle (C.pip)	Regular Foraging	No	Recorded on the detector to the north of the site only
General Activity Constant foraging by noctules around the entire site; foraging by C.pip to the north of the site for the last 15 minutes of the survey. Passes by S.pip and Myotis across the site. No bats emerged and no other species recorded.				

4.3.3 Second Emergence Survey

The results of the second emergence survey are detailed in Table 4.5.

TABLE 4.5 – SUMMARY OF SECOND EMERGENCE SURVEY ACTIVITY

Time	Species	Activity	Re- enter?	Location
20:47- 21:00 – First bat	Soprano Pipistrelle (S.pip)	Foraging HNS	No	South and west of the site
20:53- End of survey	Common Pipistrelle C.pip	Passes and foraging HNS	No	Recorded on hedge line to the west and to the east
21:00- 21:26	Noctule	Likely commuting HNS	No	Three passes recorded throughout the whole site
21:06 21:09	Myotis sp. Characteristics of whiskered/Brandt's	Two passes HNS	No	Hedgerow to west of site
21:55	Soprano Pipistrelle (S.pip)	Passing, HNS	No	North of the site
General Activity Regular foraging by C.pip along east and west hedgerows. Infrequent foraging and passes by S.pip and Myotis along western hedge. Three passes by commuting noctules. No bats emerged and no other species recorded.				

4.4 *Static Results*

An Anabat Express was recording in the loft space between the 19th August and 7th September. Weather conditions were suitable for surveying during this period. During this period the only recording of any bats within the loft space was on the 5th September, where a few calls were recorded between 05:26 and 05:31. The calls were that of *Myotis*, and characteristic of whiskered/Brandt's bat. No other activity or bat species were recorded within the loft space.

4.5 *Nesting birds*

The chimney on the southern elevation had gaps between the brickwork and the continuous dry verge which could provide roosting potential for both birds and bats. There was no evidence of birds nesting within the building at the time of survey. The hedgerows and scattered trees around the building would also provide suitable habitat for nesting birds.

4.6 *Incidental Sightings*

During the emergence surveys, a little owl was heard within the garden to the south; a badger, hedgehog and fox were also observed using the hedgerow to the west.

5.0 Discussion and Evaluation

5.1 *Proposed works*

- 5.1.1 The proposed works comprise a full renovation of the main roof to provide a third floor of living space under a mansard roof. The existing garage will be converted into living space with the addition of a floor above the existing garage and a new mansard roof above that. On the north and north east elevation will be the addition of a single-story flat roof extension providing a pool and spa. On the western elevation, the new flat roof extension will provide a study and double car garage. The plans provided show there will not be a loft space within the existing house or the extension (Figure 5.1).

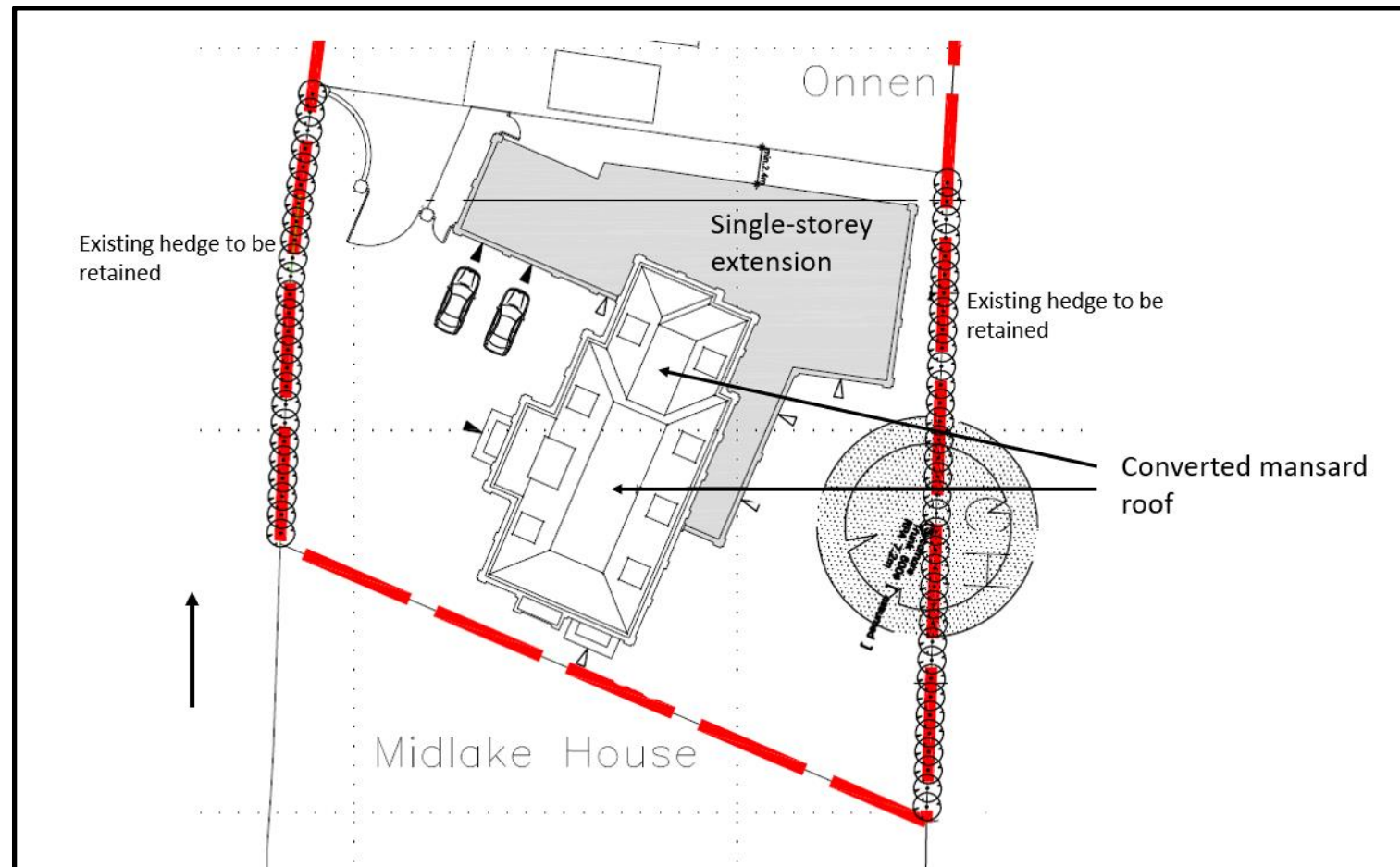


FIGURE 5.1. THE PLANS SHOWING THE PROPOSED ALTERATIONS
BASE IMAGE © S M ARCHITECTURAL LTD

5.2 Bats

- 5.2.1 There were a number of potential roosting features for bats; behind many of the soffit boards, the missing mortar could provide suitable habitat for crevice dwelling bats. In addition, there was roosting potential under the lead flashing, where the dormer windows above the garage tied in with the roof. There were also gaps on the lower chimney on the southern elevation where the bricks meet the dry verge that would provide roosting opportunities for both bats and birds. The missing end caps on the dry verge to most elevations of the building provided a number of access points underneath the tiles and into the loft space for crevice dwelling bats. Inside the loft were gaps into the cavity wall along with tears in the roof membrane where crevice dwelling bats may roost. There were a small number <20 of bat droppings found scattered throughout the loft interior; the droppings did not appear to be fresh in that they were quite dry and had accumulated a dust coverage. DNA analysis identified these as BLE droppings.
- 5.2.2 The surrounding habitat was suitable for bats consisting of pastoral farmland to three elevations (east, south and west) and a nearby woodland block (70m west), along with intact hedges running north to south of the building, with a further hedge at the end of the garden running east to west. There was limited connectivity to the wider landscape through scattered hedgerows and trees, and the buildings within the village of Gresford would also provide suitable roosting opportunities.
- 5.2.3 Under the Good Practice Guidelines (Collins, J., 2016), the building proposed for works is considered to have moderate potential for bats. This is defined as '*A structure with one or more potential roost sites that could be used by bats due to its size, shelter, protection, conditions and surrounding habitat...continuous habitat connected to the wider landscape that could be used by bats for commuting and foraging...but unlikely to support a roost of high conservation status*'. It cannot be completely discounted that the site could be used as a maternity roost, but there were limited spaces available for high numbers of crevice dwelling bats. The size of the suitable loft space does offer the preferred space, or height in particular, for BLE's to use; however, there was no evidence of the loft being used as a maternity roost by any species during any of the surveys.
- 5.2.4 No bats were observed emerging from the building during the activity surveys. There were moderate levels of activity around the site with at least four species using the site to commute through or forage within (common and soprano pipistrelle, *Myotis* sp., and Noctule). The static detector recorded brief *Myotis* calls in the loft space, characteristic of whiskered/ Brandts bats. The only calls recorded were within a five minute period, on one day, during the two week static survey. Therefore, the building is considered a temporary or occasional roost for an individual or small number of *Myotis* species; likely whiskered/Brandt's bat from call analysis and from the *Myotis* calls recorded within the emergence surveys.

- 5.2.5 DNA analysis confirmed that the droppings were from BLE bats. No BLE's were recorded on the static detector that was positioned in the loft, or within or adjacent to the site during either of the emergence surveys. The site is not a maternity roost for BLE bats, or considered a permanent summer roost. The low number of droppings and lack of activity by this species suggests the site has been used as an occasional/ transitional roost by an individual/ low number of bats outside of the main bat activity season in the past. The building may be a historical roost for BLE, based on the apparent age of the droppings and lack of activity, but without surveying throughout the year to prove the absence of this species it should be assumed that the building is still a BLE roost.
- 5.2.6 The building also has the potential to be used by both common and soprano pipistrelles as a temporary/occasional roost as they were actively foraging in the area.
- 5.2.7 As the building is a known bat roost, a licence will be required from NRW before any works can commence. The proposed works will not have a negative impact on the favourable conservation status of bat populations within the area; the buildings are a roost for individual/ small numbers of common species of bats; as long as mitigation and compensation measures are in place, as well as specific working method. These will be provided in detail within the licence method statement but some mitigation measures are included (but not limited to) in Section 6.
- 5.2.8 The process of works and the increased lighting levels from the additional windows will have the potential to cause some disturbance to bats using the site, and immediately adjacent areas, without mitigation. The RAMs detailed in section 6 will be put in place to reduce any risk or disturbance to bats using the site or adjacent areas to forage and commute between.
- 5.3 *Nesting birds*
- 5.3.1 The building provided suitable nesting features at the eaves and in the gaps at the gable ends, no nests were observed during the survey but birds were observed using the hedgerows around the site. During the second emergence survey a little owl was heard in the garden to the south.

The proposed works to the building will result in the loss of suitable bird nesting habitat. RAMs to reduce risk to nesting birds and compensatory nesting recommendations are provided in section 6.

6.0 Mitigation, Compensation and Reasonable Avoidance Measures (RAMs)

6.1 Bats

- 6.1.1 **As the building is a known bat roost, no works to the building must commence until a licence has been obtained from NRW. A licence can only be applied for following the granting of planning permission and the discharge of any ecology related conditions. Once submitted, the licence application takes 40 working days to be processed by NRW (or more if any there are any queries).** In order to apply for a licence a suitable method statement detailing the specific working method and proposed mitigation for any loss of habitat or disturbance to bats must be created by a suitable qualified ecologist and submitted to NRW.
- 6.1.2 Following the bat mitigation guidelines (Mitchell-Jones, 2004), the mitigation requirements for a roost for small numbers of bats of common or rarer species include the *‘provision of new roost facilities where possible. Need not be like-for-like but should be suitable, based on species’ requirements. Minimal timing constraints...’*
- 6.1.3 Mitigation measures and recommendations will be included in the licence application, and are also included below.
- As the building is not been used as a maternity roost, and is being used by an individual/small number of bats only, removal of the roof structure can be carried out at any time of year though ideally between April or September/October while bats are active but less likely to be using the structure.
 - Prior to works being carried out, a toolbox talk will be given to all construction workers informing them of the species involved and specific working methods to adhere to. A log of participants will be kept.
 - The removal of all the roof structures including ridge tiles, roof tiles, and fascia’s; must be undertaken by hand and supervised (where areas cannot be inspected beforehand) by a licensed ecologist who is named on and authorised to act under the specific licence granted by NRW for this works. Areas that can be inspected, such as behind fascias, will be looked at with a torch and/or endoscope prior to works commencing by the licenced ecologist. If a bat is found and accessible it should be captured and placed in an appropriate bat box that will be made available onsite prior to works commencing (which will contribute to one of the proposed mitigation bat boxes - see 6.1.5). If a bat is found and is not accessible works will start from the furthest point from the bat and continue in a directional manner to encourage the bat to leave of its own accord. If a hibernating bat is found then all works must stop and be postponed until after the hibernation season or a bat box suitable for hibernating bats must be provided to move the bat into.

- Should the replacement roof of the building be lined with felt, it should be lined with non-breathable Bitumen 1F felt. Breathable membranes can be fatal to bats when they get caught in the fibres and cannot escape. If it is necessary to use breathable membranes within the new roof, then the roof and tiles will be completely sealed and inaccessible by bats.
- Sufficient compensatory roosting opportunities and enhancements will be provided for bats within the site to contribute to biodiversity net gain (see 6.1.5), in the form of externally erected bat boxes around the site.

6.1.4 *Lighting*

The immediate surrounding habitats of the site are suitable for bats and the emergence survey showed bats using these areas to commute and forage. Therefore, any lighting associated with the building during and after the works has the potential to impact bats and nocturnal birds. To reduce the potential impact of any light spillage on commuting bats during the construction and post construction phases of the development, lighting design for the site (both during the works and of the completed building) should seek to minimise the levels of light along any areas used by bats. The following recommendations should be used when forming the lighting plan for the proposed development (Bat Conservation Trust (20018) and Stone, E.L. (2013)):

General Lighting Guidance

- There must be no lights focused on the adjacent hedgerows to the east and west of the site. There will be a dark 'buffer zone' along these hedgerows and over the garden to the south that will not be subject to light spillage (Figure 6.2). There will be no illumination of the recommended bat mitigation and bird boxes (see below) once the works are complete.
- Construction should start at least one hour after dawn and finish at least one hour before dusk during the summer months (May – August) to prevent light and noise levels disturbing the bats using the site.
- As the conversion of the loft space proposes extra roof lights and dormer windows, internal luminaires should be recessed in these rooms to minimise light spill and glare via the windows.
- Any external or security lighting should be limited to provide some dark periods during the night. The lighting should be motion activated, and not stay on longer than one minute, in order to provide maximum darkness when not needed as well as providing safe lighting conditions of residents when required.

The following luminaire specifications are provided by Bat Conservation Trust and Institute of Lighting Professionals (2018) and must be incorporated into the lighting plan for the proposed development.

- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats
- Column heights should be carefully considered to minimise light spill.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used.
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting should be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.

6.1.5 *Mitigation – compensation and enhancements*

In line with Planning Policy Wales, and following the Environment Wales Act (Section 6) and guidance provided in the recent letter by the Chief Planner in Wales, there is a requirement to ensure that a **net benefit for biodiversity** is also provided in all applications for planning in Wales; and that applications are to be refused if they cannot show a gain of biodiversity.

The loft space is not a maternity or summer roost, and is considered a previous, possibly historical, roost for an individual or small number of BLE bats on an occasional basis, as well as an occasional roost for *Myotis*, likely whiskered, Brandt's. Therefore, it is not considered proportionate to provide mitigation in the form of a bat loft that would usually be standard for BLE's when in large numbers. In this instance, it would be considered sufficient mitigation to provide three bat boxes suitable for BLE bats and other crevice dwelling bats (such as a combination of large multi-chamber and Beaumaris Woodstone bat boxes) within the site; suitable bat boxes will be agreed with the Ecologist before they are erected.

The licence method statement will detail measures to be followed to mitigate for the loss of bat roosting areas; and to enhance the site for bats; and will include (but not be limited to):

- Due to the number of windows on all elevations of the building within the proposed plans, it is not appropriate to mount all the bat boxes around the building as they would be subject to high light levels and there would not be sufficient space. Two boxes (one Beaumaris-style and one multi-cavity) should be wall mounted, either

side of the chimney on the southern elevation of building, at least 3m high so they will not be subject to public interference (Figure 6.1).

- One bat box will be pole mounted and positioned along the hedgerow to the east, south of the existing tree to be retained so it is not shaded from the sun, and adjacent to a connecting hedgerow to the east (See Figure 6.2 for locations). Specific pole mounted bat boxes can be purchased online and come in a variety of pole heights and designs; it may be more cost effective to manually mount other, non-pole specific, bat boxes onto a general pole; as long as the boxes can be mounted securely and will not move in the wind. The box will need to be mounted on the pole at least 3m off the ground.

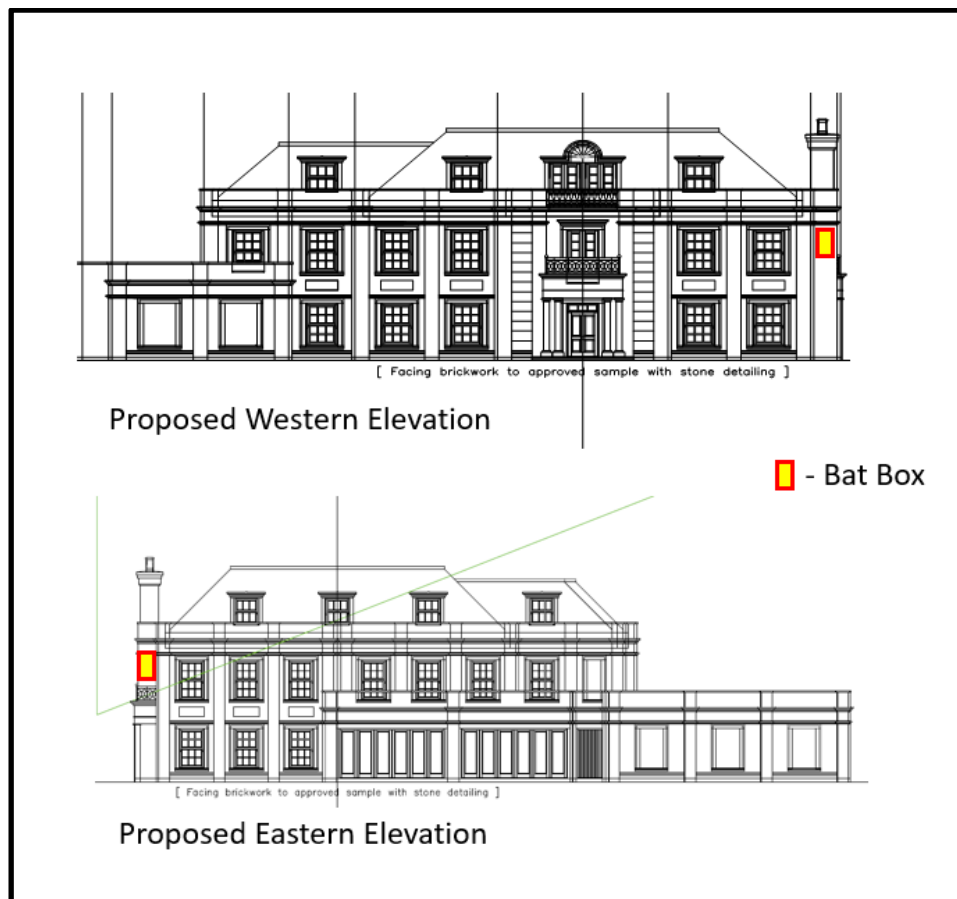


FIGURE 6.1. PROPOSED LOCATIONS OF BAT BOXES ON THE CHIMNEY ON THE SOUTHERN ELEVATION
BASE IMAGE © S M ARCHITECTURAL LTD



FIGURE 6.2 – PROPOSED DARK BUFFER ZONE (BLUE) AND LOCATION OF THE PROPOSED BAT AND BIRD BOXES (NOT TO SCALE). BASE IMAGE ©GOOGLE EARTH 2021

6.2 *Nesting birds*

- 6.2.1 The building provided suitable habitat for nesting birds. The works should therefore be undertaken outside of the bird nesting season (which is March - September inclusive) to reduce the risk of disturbance to nesting birds. Should it be necessary to carry out works within the nesting bird season, a nesting bird check should be carried out by an ecologist immediately prior to (no more than 48hrs before) works commencing to ensure that no active nests will be affected. If active nests are found then all work in the vicinity of the nest **must be delayed** until all chicks have fledged.
- 6.2.2 To compensate for the loss of bird nesting habitat in the conversion works; and enhance the site for birds; bird nesting opportunities will be provided by including bird boxes around the site. A minimum of three boxes suitable for birds of various size need to be erected on site, - one suitable for house sparrows with a 32 mm entrance, one for smaller birds (28 mm) and one for starlings with a 45 mm entrance. Examples of suitable bird boxes are: Vivara Pro Woodstone house sparrow nest-box; Vivara Pro Seville 28mm Woodstone nest-box; Vivara Pro Woodstone starling nest-box. Woodstone nest boxes are more durable and require less maintenance than wooden boxes. These boxes should be

pole mounted amongst the retained hedgerows and trees to the east and west of the site (Figure 6.2 for locations), at least 3m off the ground.

- 6.2.3 During the emergence surveys, a little owl was recorded on the site. To enhance breeding opportunities for this species, a nest box should be installed in a sheltered position to the south of the garden (Figure 6.2). The box should have a very small entrance hole (70mm), a narrow tunnel or baffle arrangement, and a dark nesting chamber (Figure 6.3). The box should be erected onto one of the trees to the south of the site if they are of sufficient size; alternatively, if the trees are not large enough to hold the box it should be pole mounted at least 3m off the ground.

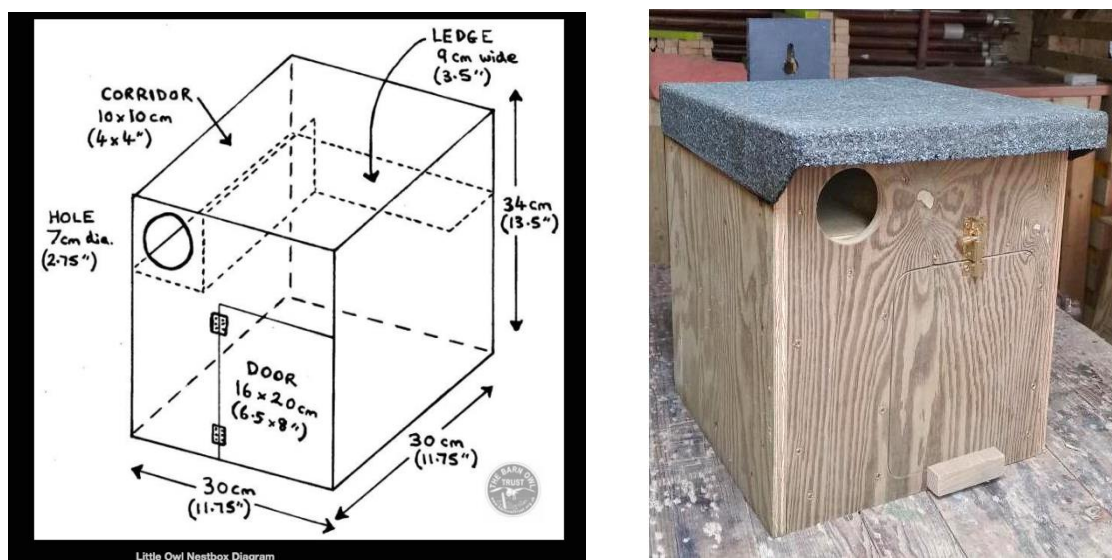


FIGURE 6.3: EXAMPLE OF LITTLE OWL BOX (BARN OWL TRUST 2021)

6.3 General Reasonable Avoidance Measures

- 6.3.1 Suitable Reasonable Avoidance Measures (RAMS) will be implemented to reduce the potential to impact to bats, nesting birds and other species that may be found on site.

The following measures should be implemented at all times during the works:

- Working areas should be kept to the minimum required.
- Works should be avoided within 1 hour of dawn and dusk where possible to avoid disturbance to nocturnal animals. If works outside this time are needed, all lighting should be directional and be directed away from the site hedgerows and garden to the south.

- Storage of fuel must follow best practice. Refuelling of machines must be undertaken on the road/hard standing at the north of the site using drip trays/plant nappies as appropriate. Potential pollutants should be restricted to hardstanding areas.
- If at any point in the works a reptile or amphibian is found all works in the vicinity of the sighting must immediately cease; if a common species is found it can be picked up (with gloves) and moved to a safe area off the site.
- Any terrestrial mammals, for example badgers, seen must be allowed to leave the area on their own. If this is not possible e.g. the animal is injured or trapped then an ecologist must be called.

7.0 Legislation

7.1 *Bats*

The Wildlife and Countryside Act (WCA) 1981 (as amended) forms the key legislation protecting habitats and species in the UK. All UK bat species are fully protected under the 1981 Act through inclusion on Schedule 5. All bats are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations (2017) which transcribes the EC Habitats Directive into UK law. In combination, this legislation makes it an offence to:

- Deliberately or recklessly take, injure or kill a bat;
- Deliberately or recklessly damage or destroy a place or structure used by bats for shelter or protection;
- Deliberately or recklessly obstruct access to a bat roost; or
- Deliberately or recklessly disturb bats while occupying a roost.

Bat roosts are protected under these laws whether the animals are present at the time of survey or not. Under both laws the Welsh Government and D.E.F.R.A. are empowered to issue licences to carry out work to bat roosts for reasons of overriding public interest. It is not illegal to tend to a disabled bat pending recovery.

7.2 *Birds*

In addition, under the Wildlife and Countryside Act, 1981 (as amended) and the Countryside and Rights of Way, 2000, all wild birds, their nests and eggs are protected during the breeding season (typically March to August inclusive). This makes it an offence to:

- Intentionally kill, injury or take any wild bird.
- Take, damage or destroy the nest of a wild bird included in Schedule ZA1.

- Take, damage or destroy the nest of any wild bird while that nest is in use or being built.
- Take or destroy an egg of any wild bird.

7.3 *Biodiversity Net Gain – Relevant sections of legislation*

- Section 6 of the Environment (Wales) Act 2016:

Biodiversity and resilience of ecosystems duty

(1) A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.

(2) In complying with subsection (1), a public authority must take account of 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);
- (e) the adaptability of ecosystems.

.... (5) In complying with subsection (1), a public authority other than a Minister of the Crown or government department must have regard to—

- (a) the list published under section 7;..
- Section 7 of the Environment (Wales) Act 2016:

Biodiversity lists and duty to take steps to maintain and enhance biodiversity

(1) The Welsh Ministers must prepare and publish a list of the living organisms and types of habitat which in their opinion are of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

(2) Before publishing a list under this section the Welsh Ministers must consult the Natural Resources Body for Wales (“NRW”) as to the living organisms or types of habitat to be included in the list.

(3) Without prejudice to section 6, the Welsh Ministers must—

- (a)take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and
- (b)encourage others to take such steps

8.0 References and Information Sources

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