Rockfield Farm
Undy
Monmouthshire

An extended Phase 1 habitat and species assessment and bat and bird survey by

Just MAMMALS Consultancy
Limited Liability Partnership

On behalf of:

monmouthshire
sir fynwy

August 2014

Client	**Monmouthshire County Council**
Project Name	**Rockfield Farm, Undy, Monmouthshire**
Report Title	**An extended Phase 1 habitat and species assessment and bat and bird survey**
File Reference	**GEN4014**

Status	Signed	Name	Position	Date
Author		**Carola Dallmeier BA (Hons) MSc Grad CIEEM**	**Ecologist**	**29th August 2014**
Reviewer		**Phillip L Morgan CEnv MCIEEM**	**Principal Ecologist**	**31st August 2014**

Members: Phillip Morgan CEnv MCIEEM **Diane Morgan** BA (Hons) ACIEEM
Web Site: www.justmammals.com **E-Mail:** carola@justmammals.co.uk **Telephone:** 0845 634 6077
Registered in: Cardiff **No:** OC345272 **Registered Address:** Llys Newydd, Llanfihangel Talyllyn, Brecon LD3 7TG

Contents

1 Executive Summary

1.1 Rockfield Farm, on the outskirts of Undy, Monmouthshire, is being considered for development. The majority of the farm area, except for a corridor beside the M4 motorway, is allocated for development within the Local Development Plan. To support the proposals, an extended Phase 1 habitat survey, and a bat and bird assessment of farmstead buildings, were undertaken in July and August 2014 by a team of experienced ecologists.

1.2 A majority of residential housing is envisaged for the site, with associated amenity use and infrastructure. A proportion of the land is also assigned for commercial use. The Phase 1 survey revealed the presence of a total of 84 mostly common and widespread plants, with the majority of the site being considered to be of moderate ecological value. However, there is a woodland corridor on site called Breezy Bank, which is of high ecological interest, and recognised as a Site of Importance for Nature Conservation (SINC). Proposals include for the woodland to be retained.

1.3 Protected species and their potential presence on site were also considered as part of this survey. The woodland corridor was assessed to have potential to support dormice and further assessment in the form of a dormouse tube survey is being undertaken in autumn 2014 with the final monitoring work in December. An active badger sett was also found, and a live badger seen during the survey work. Further survey effort for badgers may be necessary depending on the proposals for the site in the future. A grassland habitat corridor must be created.

1.4 Birds are nesting in the buildings, and potentially also in the hedgerows and woodland on site. It is therefore recommended to undertake any clearance work on the site outside the breeding season for birds between the months of March to August inclusive. Where this is not possible, netting before the start of the breeding season will prevent any breeding effort being undertaken. Furthermore, tawny owl pellets were found in one of the barns on site, and erection of two owl nest boxes, along with a number of other bird boxes, must be incorporated into the development.

1.5 No bats were found to be using any of the buildings on site for roosting purposes. Foraging and commuting activity was recorded on the site, as well as within two barns. Recommendations have been made regarding the provision of roosting facilities, as well as dark corridors on the site.

2 Introduction

2.1 Rockfield Farm, on the outskirts of Undy, Monmouthshire is a tenanted farm, which is owned by the local authority. The land lies within the Local Development Plan and has been allocated for development. The majority of the site will be used for residential housing with associated infrastructure and amenity spaces. An element of development for employment use will also be included. In order to assess the ecological value of the site and the potential for protected species to be present, the Just Mammals Consultancy LLP was commissioned to carry out an extended Phase 1 habitat assessment and a bat and bird survey.

2.2 At present, the land is rented out under a long term tenancy agreement to a sheep and cattle farmer, who is resident in the dwelling on site. The land to be developed lies at National Grid Reference (NGR) ST 4376 8770, with much of the site being at around 13m Above Ordnance Datum. Rockfield Farm as a whole covers approximately 16 hectares, but only a total of 14 hectares is to be sold off for development, and only the redline development area has been included in this assessment. Survey was undertaken between July and August 2014.

2.3 During the extended Phase 1 survey, the different types of habitat were assessed, and the potential presence of protected species, such as badgers (*Meles meles*), dormice (*Muscardinus avellanarius*), reptiles and amphibians, as well as nesting birds was considered. This report details the findings of the site assessment, as well as the targeted survey effort for bats. Additionally, it makes recommendations concerning the ecological value of the site as well as the need for further survey work as appropriate.

3 Survey Team Experience

3.1 Lead surveyors, and co-authors of this report, are Carola Dallmeier and Diane Morgan. Assisting with the survey work was a small team of ecologists and support staff and details of their experience and the bat equipment used is shown in Table 1 below.

Table 1 – Survey Team

Name/Position/Detector	NRW Licences	Experience
Diane Morgan BA (Hons) ACIEEM Senior Ecologist (TE)	49980:OTH:CSAB:2013 valid until 30th November 2015	Considerable experience (20 years) of surveying built structures for bats and has carried out ringing of Daubenton's bat as part of a multi-year project on the species. She has undertaken monitoring work on several important lesser horseshoe bat roosts and assisted in radio tracking projects on the same species. She holds a City & Guilds Level 2 award for working in High Risk Confined Spaces. Prior to her work as a consultant ecologist, Diane was the Director of Brecknock Wildlife Trust and was involved in a wide range of nature conservation work including species and habitat protection and conservation land management. Other areas of interest include otter, dormice, water voles, reptiles, amphibians, fungi and crayfish
Carola Dallmeier BA (Hons) MSc Grad CIEEM Ecologist	Current work is contributing towards licence training	Holds an MSc in Environmental Conservation Management and has practical expertise with bats, birds, botanical assessments, mammalian and reptile surveys. As well as assisting in conservation-based research, she has carried out biodiversity audits and ecological enquiries. Carola has completed a study of water voles and is currently assisting with bird ringing
Phil Morgan CEnv MCIEEM Principal Ecologist (TE)	50269:OTH:CSAB:2013 valid until 30th November 2015	Over 30 years experience of undertaking building, tree and cave surveys for all bat species. In addition he has undertaken foraging and flight line surveys using heterodyne and other echo location equipment and in 1991 made a significant contribution to a Bristol University run project, which established the methodology used in the National Bat Monitoring Programme. Phil has also undertaken numerous radio tracking exercises on both lesser horseshoe and Daubenton's bats. He holds Natural Resources Wales (NRW) licences for other protected species including dormice, otter, water vole and great crested newt
Jenny Gatward BSc (Hons) MSc Grad CIEEM Trainee Ecologist (TE)		A recent graduate of the University of Bristol, having studied for an MSc in Ecology and Management of the Natural Environment. Practical expertise includes survey work for badgers, dormice and great crested newts, whilst obtaining a 'working towards your great crested newt licence' certificate. Jenny is a Graduate member of the Chartered Institute of Ecology and Environmental Management (Grad CIEEM) and is currently on a Trainee Ecologist placement with Just Mammals Consultancy LLP
Nigel Isaksson Senior Survey Assistant (TE)	51581:OTH:CSAB:2014, valid until 28th February 2015	Surveyor with six years experience undertaking bat surveys, flight line observations, census counts
Mo Tillotson Senior Survey Assistant (HE, D-230)	41312:OTH:CSAB:2012 valid until 31st October 2014	Surveyor with eight years' experience, undertaking emergence monitoring of lesser horseshoe bats as well as hibernation surveys for the same species. She has been involved in hundreds of emergence observations and has considerable expertise in surveying built structures for bats. Maureen is employed as a Senior Survey Assistant with the Just Mammals Consultancy LLP
Ben Rees BSc (Hons) Survey Assistant (TE, HE)		A recent graduate of Swansea University with a first class degree in zoology. Modules studied included Physical Ecology of Vertebrates, Animal Behaviour in Conservation and Welfare, Behaviour and Ecology and Practical fieldwork. A third year dissertation assessed the abundance and distribution of bats (*Pipistrellus spp.*) over 3 fresh water sites in Swansea and examined the factors that influence their activity
James Hoskins Survey Assistant (FD)		James is currently a student gaining experience of ecological field work
Dawn Roxanne Survey Assistant (HE)		Dawn is gaining experience of ecological field work
Emma Higgins Survey Assistant (TE)		Following completion of a BSc Biology degree at the University of South Wales, Emma is planning to commence an MSc in Conservation and GIS. She is

			gaining practical experience of ecology through participating in summer field work as a survey assistant for Just Mammals Consultancy LLP

Note – Detection equipment used: **TE = Time expansion (Pettersson D-240X)**
FD = Frequency division (Pettersson D-230, Anabat SD1, Bat Box Duet, EM3+)
HE = Heterodyne (Pettersson D-230, Skye SBR2100, Skye SBR1200)

4 Survey Methodology

4.1 A botanical and habitat survey and assessment for the presence and potential presence of protected species was carried out on Wednesday the 23rd of July 2014. Details of the survey activities and weather conditions are provided in Table 2 in the Survey Results section.

4.2 The site was walked over recording all plant species and features on a custom-made recording sheet. Habitats and notes were drawn onto a map of the survey site and digital camera photographs were taken. A coloured Phase 1 habitat map was produced which can be found in Appendix I and a list of plant species was recorded, which is shown in Appendix II.

4.3 Assessment for the presence or potential presence of protected species, including bats, dormice, reptiles and amphibians, was undertaken by considering the features of the site. Such features include grassland, buildings, hedgerows and trees. The potential suitability of the site for nesting birds was also considered.

4.4 To consider the possible presence of bats, an initial daytime visual assessment of the farmhouse, and farm outbuildings, was carried out on Thursday the 17th of July 2014, which involved an external and internal search of the buildings and their immediate surroundings, seeking signs of the presence of protected species. Not all the buildings were inspected in the first visit and the remainder of the outbuildings were examined during the second visit on Sunday the 17th of August 2014. The external survey involved examining all outer surfaces from the ground looking for signs of bat presence including bat faeces (droppings), as well as urine, on ledges, and walls. A high powered lamp was used to illuminate potential access and roosting areas. Any gaps or crevices in the structures were inspected as closely as possible. The context of the buildings within the surrounding landscape was also assessed. At the same time as the buildings were examined for the presence of bats, other protected species and breeding birds were considered.

4.5 The internal inspection involved examining the interior roof structure, walls, floors and ledges for evidence of bats and live bats. A high powered torch was used to inspect areas of potential roosting for bats within crevices and along roof timbers including urine staining and evidence of feeding. Both live and dead bats were searched for in the internal structure of the buildings. The structure and materials of the buildings were recorded on a custom made building assessment form, along with a diagram of the buildings detailing any potential access areas or roost locations.

4.6 Two dusk emergence/activity observations were undertaken by seven surveyors on the first and six on the second occasion. The majority of surveyors were equipped with a Pettersson D-240X machine. This device is particularly sensitive and excellent at separating species which employ the middle range frequencies for foraging (45 – 55 kHz). It is therefore very good at identifying the different pipistrelle species (*Pipistrellus sp.*) and the different myotid bats* (*Myotis sp*.) (*myotid bat is a collective term used where the species could not be specifically identified beyond this broad group). The myotid group encompasses seven species of British bat including Alcathoe's (*Myotis alcathoe*); Bechstein's (*M. bechsteinii*); Brandt's (*M. brandtii*); Daubenton's (*M. daubentonii*); Mouse-eared (*M. myotis*); Natterer's (*M. nattereri*); and the whiskered bat (*M. mystacinus*).

4.7 The Pettersson D-240X machine can be used in heterodyne or time expansion modes and for the purposes of this survey, only the time expansion facility was used. The received signals were then recorded to Panasonic SJ-MR220 Mini Discs for later analysis. The time expansion method is similar to making a high speed tape recording of a bat's ultrasonic call and then playing it back at a slower speed. Digital technology is used to make the recording and slow it down for play back. Since the signal is stretched out in time, it is possible to hear details of the sound not audible with other types of detector.

4.8 Time expansion is also the only technique which preserves all characteristics of the original signal, which makes time expanded signals ideal for sound analysis. In addition to the simple echo location calls which can be used for commuting, enabling the bat to find its way about,

bats will also produce feeding 'buzzes' when foraging. These buzzes occur when the bat closes in on its prey and are a consequence of the Doppler Effect, which results in a feeding 'buzz' as the reflected signal shortens when the animal approaches its prey. Such buzzes are used to assess the importance of an area for foraging. The recorded echo location calls are then interpreted using BatSound sound analysis software. By use of the software it is possible to separate the different species by analysis of the sonograms produced.

4.9 In addition, an Anabat SD1 detector was also left functioning inside one of the barns during the duration of both dusk observations to record any bats that were potentially using the building. It was installed in different parts of Barn 2. This passive monitoring device automatically logs any bat activity inside the building without affecting bat behaviour. The Anabat is triggered by high frequency sounds, such as bat echo location calls and makes frequency division recordings to a memory card. The card is downloaded to a computer to extract the stored data, which is viewed and managed using AnalookW software. Species are subsequently identified from the resultant sonograms.

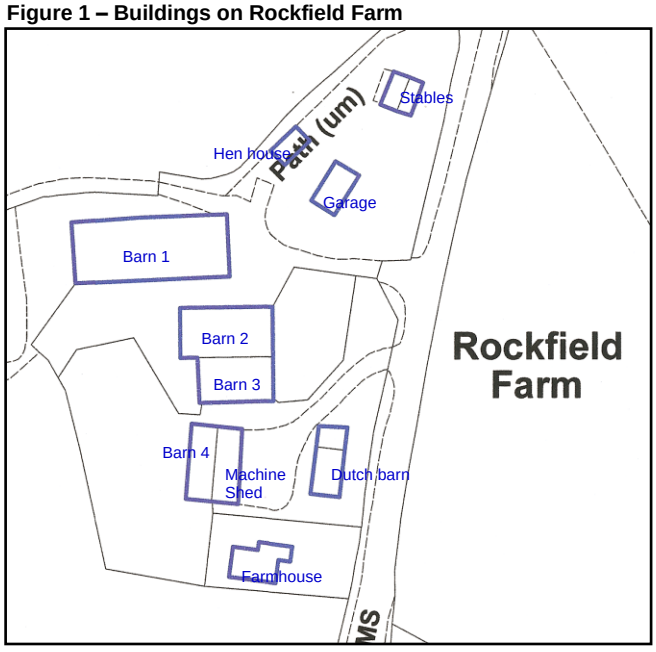
5 Site Description

5.1 Rockfield Farm, is a 16 hectare holding between the village of Undy and the M4 corridor. It lies on a slight ridge with the land dropping away to the north towards the motorway and sloping down south towards the outskirts of Undy. A section of farmland at the northern end of the farm, adjacent to the motorway, is not included in the development and has therefore not been included in this assessment. The boundaries between the development site and the remainder of Rockfield Farm are arbitrary and not clearly marked on the ground, presumably as they are intended as a buffer zone to the motorway.

5.2 The development site, hereafter called Rockfield Farm, consists of a farm yard area, with nine buildings in the centre of the site, accessed from a small country lane, called The Elms, which runs in a north/south direction to the east of the farmstead. The remainder of the fields surround the buildings; there are six fields of varying sizes in total. Field boundaries are mostly mature hedgerows, with some fences. From the farmstead towards the west runs a narrow strip of woodland, this is designated as a Site of Importance for Nature Conservation. The woodland lies on a north-facing slope.

5.3 As noted above, there are nine farm buildings on the site. The farmhouse stands on an east/west alignment. It is a two-storey dwelling built in brick with walls covered with render and painted cream. The timber-framed roof structure is covered with concrete tiles lined with a bitumen membrane. A single storey lean-to stands against the eastern gable end wall and an entrance porch is attached to the south elevation. The roof void is one internal space with no partitions with a thin layer of fibreglass insulation and a small quantity of stored items. The remainder of the structures are farm outbuildings, barns livestock and storage sheds as shown in Figure 1 below.

Figure 1 – Buildings on Rockfield Farm



5.4 The farm outbuildings are constructed from a variety of materials. Barn 1 is a modern stock shed built with foundation walls of concrete block and elsewhere walls are upright timber. The asymmetrical metal framed roof is covered with corrugated cement fibre sheeting. Barn 2 is a brick built former milking parlour. Internally it contains several small store rooms and a small central upper granary section. The roof covering is thought to be corrugated cement fibre or corrugated asbestos sheeting. Barn 3 is attached to the southern wall of Barn 2. It is a metal framed storage barn with walls of concrete block and corrugated iron with a roof of corrugated asbestos sheeting. Internally it is one open space, within internal links to Barn 2 via a doorway in the shared wall.

5.5 Barn 4 is very similar to Barn 1. The Dutch Barn, is a metal-framed construction, covered in sheets of corrugated iron, with a lean-to made from the same materials on the northern end. The machine shed is an open fronted timber frame structure with a corrugated iron roof and sides. The garage, stables and hen house, at the northern end of the farmstead, are all wooden structures, with the garage being open fronted and clad with corrugated iron sheets.

6 Survey Constraints

6.1 There were no constraints to the survey. Access to the site was possible at all times. Survey visits were carried out on multiple occasions under different weather conditions and at different times of the day, affording a thorough insight into the ecological value of the site.

7 Desk Top Study

7.1 A desk top study was undertaken to assess the historical usage of the site, and its surroundings. A record search from the South East Wales Biodiversity Records Centre was commissioned, to a radius of 2km around the site. Priority and protected species, other species of conservation concern, and species of local conservation concern, were included in the search.

7.2 The search returned a large number of records. No records were made for the site itself, and indeed there are only seven records having been made for a 500m radius around the farm. The closest record of a protected species is for a house sparrow (*Passer domesticus*), nearly 500m away from the site, at the other end of Undy. The majority of records were made for the Gwent Wildlife Trust Nature Reserve, at Magor Marsh, some 1.5km away from the site. Only records of species with the potential to be impacted by the development were taken into account in this desk top study.

7.3 Records for protected and priority species were varied, but included a large percentage of birds. Records such as those for barn owl (*Tyto alba*), red kite (*Milvus milvus*), and northern lapwing (*Vanellus vanellus*) were made. Records also included those for highly mobile species such as bats to a distance of more than 2km. No records for hazel dormouse (*Muscardinus avellanarius*) were made for the vicinity of the site. Similarly, records for badgers (*Meles meles*) were only made for nearly 2km, or more than 2km away.

7.4 Large numbers of the records returned related to bats. Lesser horseshoe bats (*Rhinolophus hipposideros*) were recorded less than 800m away from the site. Other more usual species, such as pipistrelle bats (*Pipistrellus spp.*), and noctule bats (*Nyctalus noctula*), were also recorded within the vicinity of the site. The closest record for bats was made of an unspecified bat (*Chiroptera*) some 600m from the centroid of the site.

7.5 No part of the site is within a statutory designated site of conservation value (e.g. a Site of Special Scientific Interest (SSSI); Special Area of Conservation (SAC); Special Protection Area (SPA); or National Nature Reserve (NNR)). However, a small strip of woodland on site forms a large part of a Site of Importance for Nature Conservation (SINC). This is not a legally protecting designation, but highlights the site to be of conservation value. The SINC is called Breezy Bank to Rockfield Farm. A search within a buffer zone of 2km around the site revealed four SSSI's to be in the surrounding area. Gwent Levels – Magor and Undy, Gwent Levels – Redwick and Llandevenny, Magor Marsh are to the south of the site forming part of the Gwent Levels, a small sliver of Penhow Woodlands SSSI is within the 2km radius to the north-east of the site.

8 Survey Results – Extended Phase 1 Survey

8.1 An extended phase 1 survey was undertaken on Wednesday the 23rd of July 2014, by an experienced ecologist. Details of the conditions under which survey was carried out are given in Table 2 below. Wind speeds given employ the Beaufort scale.

Table 2 – Summary of Survey Activity and Weather Conditions

Survey Type and Location	Dates	Timing	Weather Conditions
Botanical survey and habitat assessment, including protected species assessment	23/07/14	10.15 – 14.00 hours British Summer Time (BST)	Air temperature: 28°C Cloud cover: 1/8 oktas Wind speed: F2, light breeze Conditions: Muggy
Surveyor	Carola Dallmeier		

8.2 The site was divided into six different types of habitat for recording purposes. Table 3 below provides details of the various habitats and the species present in each of them.

Table 3 – Summary of Phase 1 Habitat Notes

Habitat	Phase 1 Classification	Description of Area and Typical Species
Type 1	B6 Poor semi-improved grassland	The majority of the site consists of fields covered in grassland. These are either used for grazing or being left, presumably for a hay-cut. The majority of the sward is fairly short due to either sheep or cattle grazing, with some longer growth. Species diversity is fairly low due to the improved nature of the site. Species present include creeping buttercup (*Ranunculus repens*), autumn hawkbit (*Leontodon autumnalis*) and greater plantain (*Plantago major*). Also present are lesser stitchwort (*Stellaria graminea*), cock's foot (*Dactylis glomerata*) and a bent-grass (*Agrostis sp.*).
Type 2	J2.1.1 Native species-rich intact hedge	In between the fields and surrounding the farms are mature hedgerows. These are interrupted by some gates but are mainly intact and of 1 – 1.5m width. Species composition is fairly varied and there are some scrub-height trees interspersed in the hedge. Species present include hawthorn (*Crataegus monogyna*), hazel (*Coryllus avellana*) and elder (*Sambucus nigra*). Also present are corn mint (*Mentha arvensis*), red campion (*Silene dioica*) and garlic mustard (*Allaria petiolata*).
Type 3	J1.3 Short perennial	The yard area around the farmhouse and in between the sheds is very disturbed and only some species are present within some largely bare areas and some areas with more ruderal growth. Species present include pineappleweed (*Matricaria matricarioides*), hedge mustard (*Sisymbrium officinale*) and common nettle (*Urtica dioica*). Also present are creeping buttercup (*Ranunculus repens*), bramble (*Rubus fruticosus*) and cow parsley (*Anthriscus sylvestris*).
Type 4	J3.6 Buildings	Buildings on site are numerous and of varied materials and varying in size as described previously. There is little botanical interest. Ivy (*Hedera helix*) has gained a foothold on the farm house.
Type 5	J5 Other: Tarmacadam/Concrete surfaces	There are a limited number of areas covered in tarmacadam or other impermeable surfaces such as concrete. These are exclusively around the farm yard. There are no plant species present in this type of habitat.
Type 6	A1.1 Semi-natural broad-leaved woodland	Between the farm buildings and towards the south-western edge of the site runs a section of woodland on a north-facing slope. Species present indicate a successional process, with a majority of scrub and light-loving species having grown out into a low woodland of approximately 6-7 meters height with a fairly barren understorey. Species present include hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*) and pedunculate oak (*Quercus robur*). Also present are bluebell (*Hyacinthoides sp.*), hart's tongue fern (*Phyllitis scolopendrium*) and wood melick (*Melica uniflora*).

8.3 A coloured Phase 1 habitat map was produced (see Appendix I). A total of 84 species of plants were found during the survey. Species present on site are mostly common and wide-spread. The majority of the site is considered to be of moderate ecological interest with the woodland being of high ecological interest.

8.4 Ecological assessment included identification of the potential for protected species to be present on site. As mentioned before, a bat and bird assessment was commissioned separately. The surrounding habitat, especially the trees and hedgerows on site hold interest for birds and bird activity was noted on site during the survey.

8.5 Reptiles and amphibians make use of grassland sites. They do require other features as well, including suitable areas of cover, and more unmanaged areas for feeding purposes. No such features were found to be present on site. No reptiles, or amphibians, were found on site during the survey.

8.6 Dormice are a woodland species that will also readily make use of mature hedgerows, where these interconnect with suitable woodlands. The woodland on site contains a variety of food plants including hazel. No evidence of dormice in the form of nests, or characteristically opened hazelnuts, was found during this preliminary survey. However the mixture of hedges and woodland would make the site very suitable for them.

8.7 Badgers make use of agricultural land and setts are often found on wooded banks or along hedgerows. Badger field signs include latrines – conspicuous holes with dung deposited in them – or setts, series of interconnected tunnels and chambers. A sett was found in the woodland corridor on site. A total of six entrance holes were discovered strewn across the bank in a strip along the bottom. Two latrines with recent dung deposits were found close to one of the sett entrances. On a subsequent survey visit, a badger was spotted near the same entrance, both suggesting the sett to be currently in occupation.

9 Survey Results – Bat and Bird Assessment

9.1 The daytime inspection of the farmhouse found no evidence for the presence of bats. There were no bat droppings in the loft or on external sills or ledges. A small number of gaps were noted around the farmhouse roof with gaps below lead flashing around the base of the chimney, and two missing roof tiles. The warm environment of the loft of a dwelling often makes it attractive to bats, but there was no sign that bats are roosting in the farmhouse. Elsewhere in the farmstead outbuildings, *circa* five bat droppings were found scattered inside Barn 2. A small number of moth and butterfly insect remains were also found scattered inside, but there was no sign of a bat feeding perch. This building has numerous open doorways and windows and an internal link to Barn 3.

9.2 Several old and active bird nests were noted around the farmstead. Barn 1 contains nests of collared dove (*Streptopelia decaocto*), and house sparrow (*Passer domesticus*). Barn 2 contains several active swallow (*Hirundo rustica*) nests. A collection of *circa* 30 bird pellets, thought to be those of tawny owl (*Strix aluco*), were found in the western end of Barn 1. They were fairly small, and beetle cases could be seen inside them when broken up. It could not be conclusively identified what species the pellets belonged to, however barn owl (*Tyto alba*) was excluded as a possible source of the pellets. A nest of rather large proportions was noted on a metal beam directly above the pile of droppings.

9.3 The two dusk bat emergence/activity observations were undertaken on Thursday the 17th of July 2014 and Sunday the 17th of August 2014. Details of the conditions under which survey was carried out are given in Table 4 below. Wind speeds given employ the Beaufort scale.

Table 4 – Summary of Survey Activity and Weather Conditions

Survey Type and Location	Dates	Timing	Weather Conditions
Daytime visual building assessment and first dusk bat emergence/activity survey; Passive monitoring (DM, PM, DR, JH, MT, BR, JG)	17/07/14	20.00 – 22:30 hours BST (Sunset: 21.22)	Air temperature: 25°C – 23°C Cloud cover: 1/8 oktas Wind speed: F2, light breeze Conditions: Dry
Daytime visual building assessment and second dusk bat emergence/activity survey; Passive monitoring (DM, NI, PM, AL, BR, EH)	17/08/14	19.45 – 21.45 (BST) (Sunset: 20.33)	Air temperature: 16°C Cloud cover: 7/8 oktas Wind speed: F2, light breeze Conditions: Dry
Surveyors	Diane Morgan (DM), Philip Morgan (PM), Nigel Isaksson (NI), Ben Rees (BR), James Hoskins (JH), Mo Tillotson (MT), Jenny Gatward (JG), Alex Lock (AL), Emma Higgins (EH), Dawn Roxanne (DR)		

9.4 Details of survey results from the first dusk emergence/activity survey on 17th July 2014 are given in Table 5 below. The observers were able to communicate using walkie-talkie radios.

Table 5 – Rockfield Farm, Dusk Observation – 17th July 2014

Time (24 Hour Clock)	Species (Common Name)	Recording No	Observed Activity
21:39 hours	Noctule	1 JG 200 PM	Bat flew over observation site from north to south
21:51 hours	Common pipistrelle	2 JG	Bat commuting east to west through farmhouse garden then flew north
21:50 hours	Common pipistrelle	51 DM	Bat flew from the west and into the western end of Barn 1 and then back out
21:52 hours	Common pipistrelle	Not recorded BR	Bat flew in at western end of Barn 3 and then flew out again
21:52 hours	Noctule	Not recorded MT	Bat heard overhead, recorded from western side of farmstead
21:53 hours	Common pipistrelle	52 DM	Bat flew in at western end of Barn 3 and then flew out again and then flew north-west over Barn 2
21:53 hours	Common pipistrelle	Not recorded MT	Two bats commuting along hedge to the west to the west of Barn 1
21:54 hours	Common pipistrelle	201 PM	Bat commuting from north to south over the roof of Barn 4
21:55 hours	Bat	Not recorded DR	Bat flew from south-east to north-west across yard between farmhouse and Barn 3 and then over the roof of the machine shed and Barn
22:01 hours	Noctule	53 DM, 202 PM	Two bats foraging in the field to the west of the farmstead
22:04 hours	Bat	Not recorded DR	Bat flew from north-west to south-east around Barn 4 and over the machine shed
22:05 hours	Bat	Not recorded MT	Bat circling over roof of Barn 1 at north-west side
22:09 hours	Common pipistrelle	Not recorded BR	Bat flew in and then out of Barn 2 at the western end and off to the south
22:15 hours	Common pipistrelle	Not recorded MT	Bat flew from the west into western end of Barn 1
22:15 hours	Soprano pipistrelle	54 DM	Bat flew from the west between Barns 1 and 2, over the yard and off to the south-east
22:19 hours	Common pipistrelle	Not recorded MT	Bat flew into western end of Barn 1 from the west
22:21 hours	Noctule	55 DM	Bat heard over the site but not seen
22:24 hours	Bat	Not recorded JH	Bat flew overhead flying north to south, recorded from north-east corner of Barn 1
22:28 hours	Bat	Not recorded JH	Heard not seen, recorded from north-east corner of Barn 1

Note: Highlighted records indicate emergence or re-entry activity from the buildings

9.5 There was light bat foraging activity around the farmstead during the first dusk observation, but no bats were seen to emerge from the buildings. All the activity was seen to arise from bats flying into the observation zone from the surrounding area. The majority of activity was foraging pipistrelle bats, as well as some noctule bat activity over the site – largely foraging over the cattle grazed fields. Common (*Pipistrellus pipistrellus*), and soprano pipistrelle (*P. pygmaeus*) were both recorded. Bats were observed and recorded to be flying into Barns 1 and 3. Early evening foraging occurred for some time within Barn 1 but in Barn 3 it was more in the nature of a brief fly through. The Anabat positioned inside Barn 2 had no recordings.

9.6 Details of survey results from the second dusk emergence/activity survey on 17th August 2014 are given in Table 6 below.

Table 6 – Rockfield Farm, dusk activity observation – 17th August 2014

Time (24 Hour Clock)	Species (Common Name)	Recording No	Observed Activity
20:41 hours	Common pipistrelle	174 AL	Bat flew into Barn1 from the west, and then began to forage inside with regular sweeps out of the large opening at the western end
20:42 – 20.44 hours	Common pipistrelle	6 EH, 175 AL	Bat foraging inside Barn 1
20:45 hours	Common pipistrelle	212 DM, 12 EH	Bat flying in and out of western side of Barn 1, before flying east between Barns 1 and 2
20:46 hours	Common pipistrelle	213 DM 13 EH	Bat flying in and out of western end of Barn 1

20:58 hours	Common pipistrelle	176 AL	Second bat flew from south-west and joined first bat foraging in and out of large opening at western end of Barn 1
21:00 hours	Common pipistrelle	214 DM, 32 BR	Bat circling in and out of western side of Barn 1 before flying across western sides of Barns 2 and 3, and flying through Barn 3 towards the surveyor on the opposite side of Barn 3
21:03 hours	Common pipistrelle and noctule	14 EH	Heard not seen from eastern end of Barn1
21:04 hours	Common pipistrelle	177 AL 15 EH	Two bats still foraging in and out of western side of Barn 1
21:05 hours	Common pipistrelle	34 BR, 16 EH, 215 DM	Bat flew in at western end and out of eastern doorway of Barn 3 and began foraging over the yard along with first bat
21:07 hours	Common pipistrelle	178 AL	Bat foraging over vegetation to the west of Barn 1
21:07 hours	Soprano pipistrelle	17 EH 35 BR	Bat flew over farmstead from south to north and then back again
21:07 hours	Soprano Pipistrelle	125 PM	Heard not seen recorded from north-eastern area of the farmstead
21:08 hours	Soprano Pipistrelle	18/19 EH	Bat flew over Barn 1 heading north to south, towards Barn 2
21:10 hours	Noctule	36 BR 179 AL	Bat heard over the site
21:10 hours	Common pipistrelle	126 PM	Bat foraging to the north of the farmstead. Recorded from north-eastern area of site
21:11 hours	Soprano pipistrelle and Myotis sp.	216 DM	Bat flew along the western side of Barns 2 and 3 from the opening on the western side of Barn1
21:15 hours	Myotis sp.	37 BR 20 EH	Bat heard not seen around the yard on the eastern side of Barns 2 and 3
21:16 hours	Myotis sp.	127 PM	Bat foraging to the north of the farmstead. Recorded from north-eastern area of site
21:17 hours	Common pipistrelle	38 BR	Bat flew over roof of Barn 3 from the west and flew into the main door of Barn 3 on the eastern side of the barn
21:19 hours	Common pipistrelle	39 BR	Bat flew from south in a north-east direction across the front of Barns 2 and 3
21:20 hours	Common pipistrelle	23 EH 128 PM	Bat flew from north to south, past eastern end of Barn 1
21:22 hours	Common pipistrelle	24 EH	Bat flew from west to east, flying between Barns 1 and 2
21:23 hours	Common pipistrelle	40 BR	Bat flew from the north across the eastern elevation of Barns 2 and 3 and off to the south
21:23 hours	Common pipistrelle	129 PM	Bat foraging in front of garage, recorded from north-eastern area of site
21:25 hours	Myotis sp.	217 DM	Heard but not seen by western end of Barn 1
21:26 hours	Noctule	41 BR	Heard not seen over the site
21:35 hours	Common pipistrelle	26 EH	Bat circled over Barn 1 and then flew east over yard area

Note: Highlighted records indicate emergence or re-entry activity from the buildings

9.7 The second dusk session recorded a higher level of bat foraging and commuting activity, but no emergences from the buildings occurred. Bat behaviour followed a similar pattern to that on the first observation with foraging occurring inside Barn 1 and brief fly through activity in Barn 3. The Anabat was positioned inside Barn 2 for the duration of the dusk observation and no bat activity was recorded. Several myotid bats were recorded during this observation, but it was not possible to identify them to species level.

10 Discussion and Conclusions

10.1 The majority of Rockfield Farm is being put forward for development. At present, the majority of the site is covered in poor semi-improved grassland. Some habitats on the site, including the hedgerows, woodland corridor and buildings on site, hold interest to wildlife and protected species were found on site.

10.2 An active badger sett was found to be present in the woodland on site. Badgers are protected under the Protection of Badgers Act 1992. Their places of rest, badger setts, are also protected. Ground works in the vicinity of a badger sett have the potential to cause an offence and sensitive timings of works must be adhered to. Where the works are likely to cause an offence, application for a badger licence may be necessary to safeguard the animals on site.

10.3 Owl pellets were found in Barn 1. The large number of droppings and a large nest found directly above the pile suggest breeding activity is occurring. Whilst the pellets were assessed

not to be those of barn owl, but more likely to be tawny owl. It is likely that the breeding site of an owl species or raptor will be lost with the demolition of the buildings.

10.4 No habitat suitable for reptiles and amphibians was assessed to be present on site. The grassland is maintained by either grazing or mowing and there is a great deal of disturbance on site. The more natural areas on the site, the woodland, does not constitute suitable habitat for reptiles and would only be potentially supporting amphibians in winter were there suitable habitat in close proximity.

10.5 Dormice are potentially present in the woodland on site. The habitat is suitable for the species and hazel, as well as other food species such as hawthorn and bramble, are present. It is suitably dense and habitat connectivity is assured by the mature hedgerows on site. Targeted assessment for the species to determine whether they use the site must be undertaken.

10.6 Whether dormice are present in the woodland on site or not, Breezy Bank woodland – a Site of Importance for Nature Conservation – supports at least one protected species, and provides suitable habitat for a host of other wildlife including breeding birds, bats and small mammals. It is a local haven for wildlife and must be protected and where possible enhanced during the development.

10.7 No bat emergence behaviour from the farmhouse, or any of the farm outbuildings on the site, was recorded. No bat roost locations were identified. The large openings at doorways and windows make the interior the barns attractive areas for early evening foraging and Barn 3 and especially Barn 1 were used for this purpose. Commuting behaviour of bats across the site was also recorded as well as the regular presence of noctule bats which seem to favour the cattle grazed fields for foraging – this is probably the most significant bat usage of the site.

10.8 A Bat Conservation Trust study of the impacts of lighting on bats has considered the increased risk of the bats being preyed on in well illuminated areas. Also, lighting was found to be harmful when present along river corridors, near woodland edges and near hedgerows. Inappropriate lighting can result in the isolation of bat colonies and can affect insect behaviour which then adversely affects bats. Hedgerow corridors and natural areas must be kept dark in order to avoid such effects. Pipistrelle bats were the species dominating the dusk observations around the farm buildings, and these species are more tolerant of artificial lighting than species such as brown long-eared (*Plecotus auritus*) or lesser horseshoe. Neither of these last two species were seen or recorded at the site. The noctule bats would probably abandon the site because of the loss of the fields. Advice and recommendations are made below concerning lighting.

10.9 Other seasonal use of the site by bats was considered. The potential for hibernation is considered to be low. All of the buildings associated with the farm operations are open and do not provide sufficient protection from fluctuations in winter temperatures to provide hibernaculum usage. The farmhouse does not contain features suitable for hibernation.

10.10 The buildings, hedgerows and the woodland on site are used by birds for nesting purposes. Breeding efforts of all wild birds are protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and recommendations are made concerning nesting birds.

11 Recommendations

11.1 Further survey effort, to establish the presence/absence of hazel dormice at the site, was recommended, and was commenced in August 2014, to continue until December 2014. Due to the close proximity to the coast, and mild weather in the area, dormouse activity through to December is possible. Further recommendations will have to depend on the outcome of the survey work.

11.2 Addition survey with regards to the badgers on site might be necessary, depending on the detailed proposals for the site. At present, the woodland on site is to be retained as part of the proposals, preserving the badger sett. However, the woodland belt is fairly narrow, and the badger sett close to its edge. Badger setts can be fairly expansive underground and mapping of the sett might be necessary in order to determine the minimum buffer zone for development and indeed any ground works on the site. Disturbance within 30m of a badger sett in the form of ground works, is likely to require that a licence is issued by Natural Resources Wales and may have to be restricted to the period 1st July to 30th November – when licences are usually permitted.

11.3 Survey effort might also be necessary in order to determine the extent and location of the badger clan's territory. To ensure the long-term viability of the badger clan on site, a habitat corridor must be created and this must include as much as possible of the existing territory as is feasible. Grassland areas suitable for foraging must be created and ideally these must link up with the land to both west and east of the site.

11.4 It is important to replace any nesting opportunities destroyed by the demolition of the buildings currently on site. As such, nesting features for swallows, sparrows and owl must be incorporated into the new designs for the site. Standard bird boxes can be purchased for all three needs. At least 50 boxes for swallows and sparrows each must be installed, as well as two nesting opportunities for owls. The latter ones must be installed in suitable cover, but with a clear flight line and they must be close to the woodland and the corridor created for the badger.

11.5 No bats were observed to be using the site for roosting purposes. In the event where bats are found on site during the development, works must stop immediately and advice sought from Natural Resources Wales (NRW). Enhancements for bat roosting purposes must be incorporated into the design of the new buildings with the use of integrated crevice features or with the use of bat boxes.

11.6 The designs for the new buildings must consider the importance of existing hedgerow corridors, as well as the SINC woodland on site for bats. All external light fittings must avoid light spill into the canal corridor. External lighting and security lights must ensure low output; fitments must be attached to external walls at a low level with all light directed downwards. There must be no upward light spill and shrouds or deflector fittings are a simple way of avoiding this. Lights must be on timers to ensure that lights are extinguished within 30 seconds of movement ceasing.

11.7 As previously stated, birds are using the site for nesting purposes. Hedgerows on site must be preserved where possible. If some hedgerows have to be removed as part of the development process, clearance work must be carried out outside the breeding season for birds between the months of March to August inclusive. Where this is not possible, netting or possibly a search by an Ecological Clerk of Works immediately prior to the works will have to be carried out. If any nests are found during such a search, all works in the area must cease until such a time when the breeding effort is completed. Replanting of hedgerows must be carried out within the first available planting season.

11.8 Development of an area gives the opportunity to carry out enhancements to benefit wildlife, especially during the landscaping process. Where possible, species used must be native. Table 7 below includes a list of suitable native tree and hedgerow species, which can be planted as part of the landscaping proposals. It is essential that such plants are sourced locally in order to reduce likelihood of importing diseases.

Table 7 – Recommended Native Tree and Shrub Species

Common Name	Scientific Name
Alder	*Alnus glutinosa*
Crab apple	*Malus sylvestris*
Dogwood	*Cornus sanguinea*
Elder	*Sambucus nigra*
Field maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Rowan	*Sorbus aucuparia*
Silver birch	*Betula pendula*
Yew	*Taxus baccata*

11.9 Additional species which can be planted, which although not exclusively native species, will bring benefits for wildlife are included in Table 8 below. Again, only plants from local stockists must be used.

Table 8 – Recommended Garden Shrubs

Common Name	Scientific Name
Barberry	*Berberis vulgaris*
Clematis	*Clematis montana* or *Clematis vitalba*
Common broom	*Cytisus scoparius*
Dog rose	*Rosa canina*
Guelder rose	*Viburnum opulus*

Hebe	*Hebe albicans*
Honeysuckle	*Lonicera periclymenum*
Lavender	*Lavandula spp.*
Oregon grape	*Mahonia aquifolium*
Tree cotoneaster	*Cotoneaster 'Coral Beauty'*
Tree cotoneaster	*Cotoneaster Hybridus Pendulus*
Vibernum	*Viburnum davidii*

11.10 It is acceptable for other plant species to be provided on site, as recommended by the landscape architect. However, any planting proposals must include a minimum 70% proportion of the species listed in Tables 3 and 4.

11.11 Most developments include areas of grassland, and whilst some of these will require an amenity grassland seed mix, there are opportunities to sow wildflower grassland areas on parts of the site. To meet these needs it is recommended that the following seed mixes are used. British Seed Houses Mix A24 is a wear and tear mixture suitable for lawns and hard-working areas near to pathways. It contains five species of plant which are suitable for this location. For the wildflower areas the Emorsgate EM3 wildflower seed mix is recommended, with some twenty-five wild plant and grass species.

11.12 In order to benefit insects in particular, it is further recommended that additional seeding in the wildflower areas to encourage and benefit nectar feeding invertebrates, is carried out. An appropriate seed mix is available from Emorsgate – EN1. This mixture includes 23 plant species which can be added to the EM3 mix noted above.

11.13 Furthermore, it is important to implement good horticultural practice in any landscaping scheme, including the use of peat-free composts, mulches and soil conditioners. The use of pesticides (i.e. herbicides, insecticides, fungicides and slug pellets etc) must be discouraged to prevent cumulative fatal effects to animals via the food chain, particularly invertebrates, birds and/or mammals. Any pesticides used must be non-residual.

12 References

Bat Conservation Trust. (2007). '*Bats and Lighting in the UK*'. Bat Conservation Trust, London.

Gent, A.H., and Gibson, S.D. (Eds). (1998). '*Herpetofauna Worker's Manual*'. Joint Nature Conservation Committee, Peterborough.

Hayward, J. (1995). '*A New Key to Wild Flowers*'. University Press, Cambridge.

Hubbard, C.E. (1984). '*Grasses: A Guide to their Structure, Identification, Uses and Distribution in the British Isles*'. Penguin Books, London.

Hundt L. (2012). '*Bat Surveys – Good Practice Guidelines, 2nd Edition*'. Bat Conservation Trust, London.

Inns, H. (2009). '*Britain's Reptiles and Amphibians*'. WildGuides Ltd., Old Basing.

Joint Nature Conservation Committee (1993). '*Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit'.* JNCC, Peterborough.

JNCC. (2004). '*Common Standards Monitoring Guidance for Reptiles and Amphibians'.* Joint Nature Conservation Committee, Peterborough.

Mitchell-Jones, A.J. (2004). '*Bat Mitigation Guidelines*'. English Nature, Peterborough.

Mitchell-Jones, A.J. (1992). '*Focus on Bats*'. English Nature, Peterborough.

Mitchell-Jones A.J. and McLeish A.P. (2004). '*The Bat Workers Manual, 3rd Edition*'. English Nature, Peterborough.

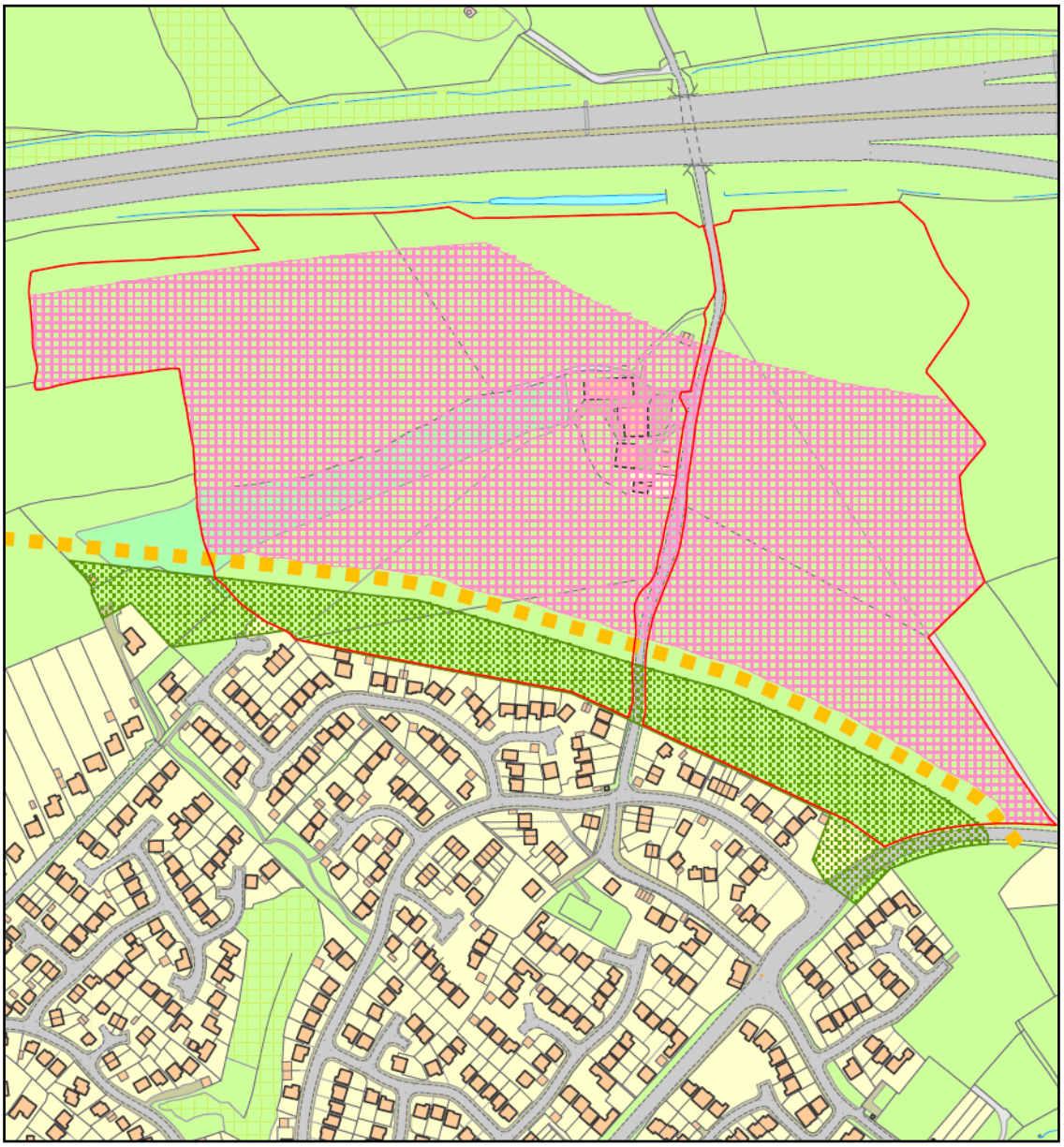
Rose, F. (1981). '*The Wild Flower Key*'. Frederick Warne, London.

Russ, J. (2012). '*British Bat Calls: A Guide to Species Identification*'. Pelagic Publishing, Exeter.

Streeter, D. (2009). '*Collins Flower Guide'.* Harper Collins, London.

Williams, C. (2010). '*Biodiversity for Low and Zero Carbon Buildings: A Technical Guide for New Build*'. RIBA Publishing, London.

13 Site Location Plan



Please note: Survey included the pink, orange and green areas only where they were within the site boundary.

14 Site Photographs

Figure 2 – Farmhouse – north elevation

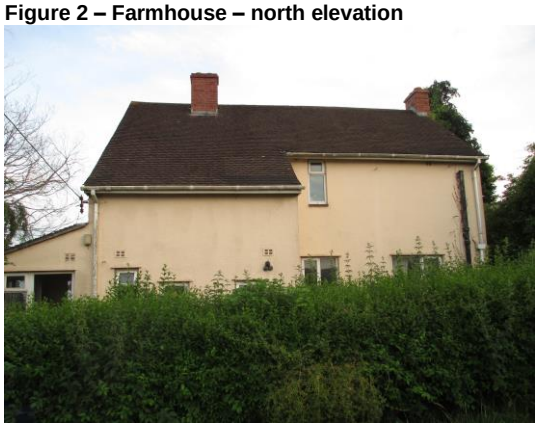


Figure 3 – Farmhouse loft

Figure 4 – Barn 1, eastern end

Figure 5 – Barn 1, western end

Figure 6 – Barn 2, eastern end

Figure 7 – Barn 2, western end

Figure 8 – Barn 3, eastern end

Figure 9 – Barn 3, western end

Figure 10 – Barn 4 and machine shed

Figure 11 – Dutch barn

Figure 12 – Garage

Figure 13 – Poor semi-improved grassland

Figure 14 – Hedgerows

Figure 15 – View towards house

Figure 16 – Woodland corridor

Figure 17 – Inside woodland

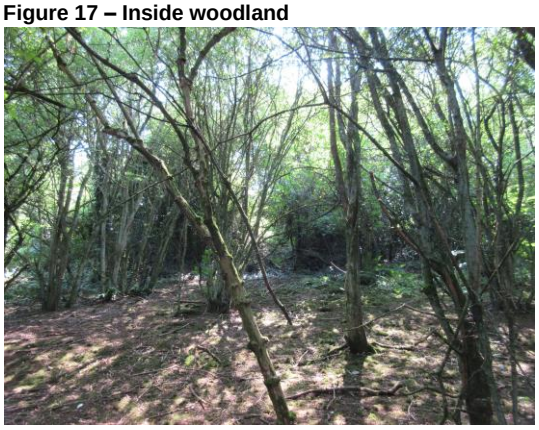
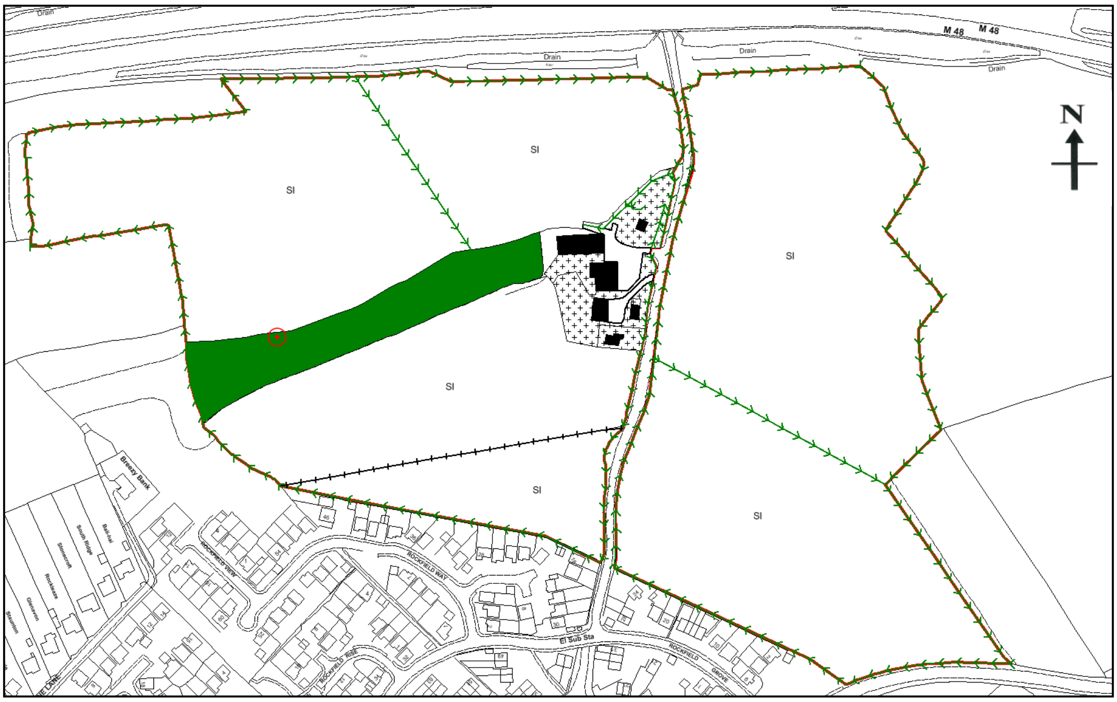
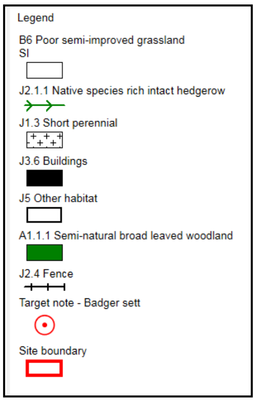


Figure 18 – Badger sett entrance, active

15 Appendix I – Phase 1 Vegetation Map





16 Appendix II – List of Recorded Species

Common Name	Scientific Name	1	2	3	4	5	6
Avens, wood	*Geum urbanum*						●
Bent grass, A	*Agrostis sp.*	●		●			
Bindweed, field	*Convolvulus arvensis*	●		●			
Bindweed, hedge	*Calystegia sepium*			●			
Black medick	*Medicago lupulina*	●					
Black nightshade	*Solanum nigrum*	●					●
Blackthorn	*Prunus spinosa*	●	●				●
Bluebell	*Hyacinthoides non-scripta*						●
Bracken	*Pteridium aquilinum*		●				●
Bramble	*Rubus fruticosus agg.*		●	●			●
Bryony, black	*Tamus communis*						●
Bryony, White	*Bryonia cretica*		●				
Buttercup, creeping	*Ranunculus repens*	●		●			
Campion, red	*Silene dioica*		●				
Clematis, A	*Clematis sp.*		●				●
Clover, Red	*Trifolium pratense*	●		●			
Clover, white	*Trifolium repens*	●					
Cock's-foot	*Dactylis glomerata*	●		●			●
Corn mint	*Mentha arvensis*		●	●			
Couch grass	*Elymus repens*	●					
Cow parsley	*Anthriscus sylvestris*		●	●			
Daisy	*Bellis perennis*	●					
Dandelion	*Taraxacum agg.*		●	●			
Dead-nettle, White	*Lamium album*		●	●			
Dock, Broad-leaved	*Rumex obtusifolius*			●			
Dock, curled	*Rumex crispus*	●					
Dog's mercury	*Mercurialis perennis*						●
Dog's tail, crested	*Cynosorus cristatus*	●					
Dogwood	*Cornus sanguinea*		●	●			
Elder	*Sambucus nigra*		●	●			●
Fern, A	*Dryopteris sp.*						●
Foxglove	*Digitalis purpurea*						●
Garlic mustard	*Alliaria petiolata*		●				
Geranium, A	Geranium sp.	●		●			●
Goosegrass	*Galium aparine*		●	●			●
Groundsel	*Senecio vulgaris*	●					
Hart's-tongue	*Phyllitis scolopendrium*						●
Hawkbit, autumn	*Scorzoneroides autumnalis*	●					
Hawk's-beard, A	*Crepis sp.*	●					
Hawthorn	*Crataegus monogyna*		●	●			●
Hazel	*Corylus avellana*		●				●
Hedge mustard	Sisymbrium officinale			●			
Hemp-agrimony	*Eupatorium cannabinum*						●
Herb-Robert	*Geranium robertianum*		●				
Hogweed	*Heracleum sphondylium*			●			●
Holly	*Ilex aquifolium*						●
Ivy	*Hedera helix*		●	●	●		●
Juniper, A	*Juniperus sp.*			●			
Knotgrass, common	*Polygonum aviculare*			●			
Lime, a	*Tilia sp.*						●
Lords and ladies	*Arum maculatum*		●				●
Mallow, A	*Malva sp.*						●
Maple, field	*Acer campestre*		●				
Meadow-grass, A	*Poa sp.*	●		●			
Mugwort	*Artemisia vulgaris*						●
Nettle, common	*Urtica dioica*		●	●			●
Nipplewort	*Lapsana communis*		●				
Oak, Pendunculate	*Quercus robur*	●					●
Oat grass, An	*Arrhenatherum sp.*	●		●			
Oat-grass, false	*Arrhenatherum elatius*			●			
Pineappleweed	*Matricaria discoidea*	●		●			
Plantain, greater	*Plantago major*	●		●			
Plantain, Ribwort	*Plantago lanceolata*	●		●			
Privet, A	*Ligustrum sp.*			●			
Ragwort, common	*Senecio jacobaea*	●					
Redshank	*Persicaria maculosa*	●					
Rose, A	*Rose sp.*		●				
Rye-grass, Perennial	*Lolium perenne*		●	●			
Sedge, A	*Carex sp.*						●
Selfheal	*Prunella vulgaris*	●					
Silverweed	*Potentilla anserina*	●		●			

Sow-thistle, Smooth	*Sonchus oleraceus*			●			
Spear thistle	*Cirsium vulgare*	●					
Speedwell, A	*Veronica sp.*	●					
Stitchwort, lesser	*Stellaria graminea*	●					
Sycamore	*Acer pseudoplatanus*						●
Thistle	*Cirsium sp.*	●					
Timothy	*Phleum pratense*	●		●			
Vernal-grass, sweet	*Anthoxanthum odoratum*	●					
Vetch, A	*Vicia sp.*		●				
Wood melick	*Melica uniflora*						●
Woundwort, hedge	*Stachys sylvatica*		●				●
Yarrow	*Achillea millefolium*	●					
Yorkshire fog	*Holcus lanatus*	●	●	●			
Fauna							
Red Admiral	*Vanessa atelanta*						
Meadow brown	*Maniola jurtina*						
Rabbit	*Oryctolagus cuniculus*						
Badger	*Meles meles*						

We confirm that in preparing this document we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, prevailing site conditions and the degree of manpower and resources allocated to the project.

This document is valid for a period of two years from the front cover date.

Just Mammals Consultancy is an ecological consultancy based in Mid-Wales. Specialising in legally protected mammal, reptile and amphibian species, but providing a wide range of ecological services, it provides appropriate expertise on behalf of a range of clients.

Clients include government departments, local and regional authorities, development agencies, commercial and industrial enterprises as well as statutory nature conservation organisations, wildlife trusts and other charitable bodies.

Please visit our web site www.justmammals.com to see the full range of services we offer and some of the projects we have undertaken in the past.

Just MAMMALS Consultancy
Limited Liability Partnership

Natural **Problem Solvers**

Just Mammals Consultancy LLP, Suite E, Unit 4, Talgarth Business Park, Trefecca Road, Talgarth, Brecon LD3 0PQ Tel/Fax: 0845 634 6077