

Bradburys Farm
Crick
Caldicot
Monmouthshire
NP26 5UW

A Preliminary
Ecological Appraisal
By:



On Behalf Of:



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1 Executive Summary

- 1.1 Bradburys Farm, at Crick, Monmouthshire, has been put forward as a candidate site for Monmouthshire County Council's Local Development Plan. A Preliminary Ecological Appraisal of the site was therefore commissioned to provide baseline ecological information in line with relevant policy and legislation. This comprised an ecological assessment of habitats and protected/priority species in October 2019, including its potential to qualify as a Site of Importance for Nature Conservation. Indicative proposals for the site are not currently known at the time of writing.
- 1.2 The primary aim of this report is to highlight, as far as reasonably possible, the overall ecological value of Bradburys Farm, and the degree to which its allocation could potentially impact biodiversity. Recommendations appropriate to the findings of the survey are provided at the end of this report.
- 1.3 Covering an area of 29.08 hectares, the survey area consists of a series of grassland fields that are surrounded and almost entirely enclosed by hedgerows. A small area of woodland, with adjoining scrub and scattered trees is situated at the eastern end of the site. There are also four concrete structures within the site boundaries.
- 1.4 Crown Hill Wood, the onsite woodland, is listed under the ancient woodland directory as a Restored Ancient Woodland Site, and directly adjacent to the site is Ballan Wood, an area of Ancient Semi-natural woodland. These areas of woodland are the most intrinsically valuable habitat as ecological features. [REDACTED]
[REDACTED] None of the other habitats on site were of notable value, although they are suitable for other protected/priority species.
- 1.5 As a whole, the site is assessed as having medium ecological value. Although further survey effort is required to more comprehensively assess ecological impacts, only discrete parts of the site were of Site of Importance for Nature Conservation quality. Despite the potential for ecological impacts on protected and priority species, there is no reason why such impacts could not be avoided or appropriately mitigated with a well-conceived design layout and responsible build/management strategy and this baseline assessment presented no major ecological constraints that would prevent the former sites Local Development Plan allocation. Nevertheless, any future development plans must be adequately informed by the results from more focussed reptile, dormouse, breeding bird and invertebrate assessments.

2 Introduction

- 2.1 Bradburys Farm is located just eastern edge of the village of Crick, and approximately 5.7km south-west of Chepstow. The Just Mammals Consultancy LLP was commissioned to undertake a Preliminary Ecological Appraisal (PEA) of Bradburys Farm, and provide a report in accordance with Monmouthshire County Council (MCC) guidelines, to inform a submission as a candidate site for the Local Development Plan (LDP). Bradburys Farm is located at National Grid Reference (NGR) ST 49094 89544, at an altitude of approximately 38m Above Ordnance Datum (AOD).
- 2.2 MCC requires baseline ecological data to inform the process of approving sites for inclusion within the Local Development Plan (LDP), in line with relevant policy and legislation.
- 2.3 Assessment of the site included an ecological survey of the site and formal desk study in accordance with current guidelines (CIEEM, 2017). The survey was completed during the daytime of 10th October 2019, and involved an assessment of habitats, as well as protected/priority species. The site was also assessed for its potential to qualify as a Site of Importance for Nature Conservation (SINC).
- 2.4 The primary aim of this report is to highlight, as far as reasonably possible, the overall ecological value of the site and the degree to which its allocation could potentially impact biodiversity. Recommendations appropriate to the findings of the survey are provided at the end of this report (Section 10).
- 2.5 Objectives of this PEA include:
 - using a formal desk study to assess the ecological value of the surrounding area and zone of influence (see Section 7);
 - determining the ecological value of the site using a formal assessment of on-site habitats and protected and priority species (see Section 9);

- identifying the key constraints or opportunities the site's LDP allocation may have on ecology and biodiversity (see Section 9); and
- highlighting potential requirements for further survey effort, mitigation measures and ecological enhancement opportunities for safeguarding biodiversity in the event of allocation (see Section 10).

3 Survey Team Experience

- 3.1 The field survey was undertaken by Carola Hoskins and Phoebe Williams. Table 1 below describes their relevant experience.

Table 1: Survey Team Experience

Name/Position	Licences	Experience
Carola Hoskins BA (Hons) MSc ACIEEM Senior Ecologist	S085820/1; bats, expiry 28 February 2021; S085814/1; otters, expiry 28 February 2021; S085817; crayfish, expiry 28 February 2021; S086094/1; great crested newts, 31 March 2021	Carola is an Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM) and she 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 holds licences with Natural Resources Wales for otters, bats, white-clawed crayfish and great crested newts. She has completed a study of water voles and is currently assisting with bird ringing. Carola is a Senior Ecologist with the Just Mammals Consultancy LLP
Phoebe Williams BA (Hons) Student CIEEM Assistant Ecologist		A Geography graduate from the University of Exeter, and a former trainee at Gwent Wildlife Trust she has completed a Natural Talent trainee programme, studying Hemiptera at the National Museum of Wales. Practical experience includes survey work for dormice, botany, newts, reptiles, and invertebrates. She has also carried out practical habitat management work whilst volunteering for Gwent Wildlife Trust. Phoebe is undertaking an MSc in Wildlife and Conservation Management at the University of South Wales, and is a Student Member of Chartered Institute of Ecology and Environmental Management (CIEEM). She is an Assistant Ecologist with the Just Mammals Consultancy LLP

4 Survey Methodology

- 4.1 Sites of nature conservation interest within 1km of the site were identified using the web-based MAGIC database (www.MAGIC.gov.uk). These included sites with statutory designations of international importance; Special Areas of Conservation (SACs), Special Protected Areas (SPAs) and Ramsar sites, as well as sites of national importance; Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). This resource was also used to assess whether the former Piggery fell within the Juvenile Sustenance Zone for the Wye Valley and Forest of Dean Bat Sites SAC. This was taken to be 600m for lesser horseshoe bats (*Rhinolophus hipposideros*), and 1km for greater horseshoe bats (*R. ferrumequinum*).
- 4.2 South East Wales Biodiversity Records Centre (SEWBrEC) was consulted for records of Protected and Priority species within 1km of the survey area. The records centre also provided details of any Local Wildlife and SINC sites within 1km, as well as any listed on the Ancient Woodland Inventory.
- 4.3 MCC's Ecological Connectivity Assessment (Gwent Ecology, 2010) was examined to assess the former Piggery in the context of the local landscape. The MCC LDP web pages were also examined for any previous walkover information.
- 4.4 The PEA was completed on 10th October 2019 by an experienced ecologist and an assistant. The site and its boundaries were appraised according to the standard methodology detailed in the 'Handbook for Phase 1 habitat survey' (JNCC 2010). All habitats were mapped, described and photographed. Accompanying species lists and features of nature conservation interest were recorded. The assessment was extended to account for priority habitats listed under Section 7 of the Environment (Wales) Act. A digitised Phase 1 habitat map can be found in Figure 4 (see Appendix II) with photos in Appendix III.
- 4.5 Hedgerows were surveyed for their native species-richness and the degree to which they were classified as 'important' under the Hedgerow Regulations (1997). Surveyors also assessed the site for the presence of veteran trees in accordance with 'Veteran Trees: A Guide to Good Management' (Reed, 2000).

- 4.6 Surveyors appraised the site's suitability for protected species. These included badger (*Meles meles*), bats, otter (*Lutra lutra*), dormice (*Muscardinus avellanarius*), water vole (*Arvicola amphibius*), reptiles and amphibians. Where present, field signs or the animals themselves were also recorded. For great crested newts (*Triturus cristatus*), ponds within 500m of the site were identified using Ordnance Survey maps, aerial imagery and assessed *in-situ* during the survey where access was available. Other priority species listed under Section 7 of the Environment (Wales) Act were also considered, such as brown hare (*Lepus europaeus*), west European hedgehog (*Erinaceus europaeus*), and harvest mouse (*Micromys minutus*).
- 4.7 Invasive species, such as Japanese knotweed (*Fallopia japonica*), and Himalayan balsam (*Impatiens glandulifera*), were also recorded, where present.

5 Site Description

- 5.1 Bradburys Farm is located just east of the village of Crick, and approximately 5.7km south-west of Chepstow. The M48 motorway runs parallel to the northern boundary of the site. Bradburys Farm forms part of an agricultural holding that stretches to the east of Crick Road and is just west of the council-owned Oak Grove Solar Farm. Around 29.08ha in size, Bradburys Farm is made up of a series of grassland fields that are surrounded and almost entirely enclosed by hedgerows. A small area of woodland, with adjoining scrub and scattered trees is situated at the eastern end of the site. There are four concrete structures within the site boundaries, with roof coverings that comprise a mix of pre-formed metal sheeting, corrugated metal sheeting and slate tiles. The structures are not well sealed and are open to the elements.
- 5.2 The site is relatively well connected to the surrounding landscape, via linear hedgerow features and adjacent woodland habitat to the east. Just under 400m to the west of the site's western boundary flows Nedern Brook.

6 Survey Constraints

- 6.1 No major constraints were encountered during the Phase 1 survey and all habitats on site could be identified with confidence. It must be noted that this PEA assessment is not intended to confirm the presence or absence of all plant species on site. This would require a more detailed botanical assessment over multiple site visits. However, it does provide a comprehensive ecological assessment of habitat types and dominant species at the time of the survey and highlights areas where further survey effort would be required.

7 Desktop Study

- 7.1 Although no part of the site was within of directly adjacent to any statutory sites of nature conservation interest, the desktop study confirmed six sites to be within 2km of the survey site; Severn Estuary (SPA, SAC, SSSI, Ramsar site) is approximately 1.7km south of the site; Brockwells Meadows SSSI is approximately 1.8km west of the site; Bushy Close SSSI is roughly 1.5km south-east of the site; Dinham Meadows SSSI is some 1.2km north of the site; Gwent Levels – Magor and Undy SSSI is 1.3km south of the site; and Nedern Brook Wetlands, Caldicot SSSI is approximately 0.2km west. Nedern Brook Wetlands is within close proximity to the site and is designated for its importance for breeding birds, particularly waders. It is of regional importance for breeding redshank (*Tringa totanus*), other notable breeding species include lapwing (*Vanellus vanellus*), mute swan (*Cygnus olor*), shelduck (*Tadorna tadorna*), yellow wagtail (*Motacilla flava*), and reed bunting (*Emberiza schoeniclus*).
- 7.2 No part of the site falls within the Juvenile Sustenance Zone for the Wye Valley and Forest of Dean Bat Sites SAC.
- 7.3 The desk-study indicated that four/five Ancient Woodland Inventory sites are present within 1km from the site centroid, including one which is located on site and one whose margins are present on site. These are listed in order of proximity:
- Crown Hill Wood; the piece of woodland on-site is a Restored Ancient Woodland Site (RAWS);
 - Ballan Wood; abuts the eastern boundary of the site, an area of Ancient Semi-natural Woodland (ASNW) and a RAWS, this falls partially within the site;
 - Farthing Hill; is immediately adjacent to the site, just the other side of the B4245 to the south-east and is ASNW and a RAWS;
 - Portskewett Hill; is 0.5km south-east of the site and an a RAWS;

- Portskewett Hill North; is 0.6km south-east an area of ASNW.
- 7.4 SEWBREC's record search reported four sites within 1km which are SINCs. All of which are described above.
- 7.5 SEWBREC's record search (unique reference 0190-384) reported 1142 species records within 1km of the site. These are briefly summarised in the bullet list below.
- terrestrial mammals – excluding bats – accounted for 53 records. A historical record of brown hare (*Lepus europaeus*) was recorded at the site and a more recent record of polecat (*Mustela putorius*) was made at the site. More recent records of badger field signs have been recorded in Ballan Wood, immediately adjacent to the site. Similarly, evidence for the presence of dormouse has been recorded within the same woodland. Historical records (from 1959) of water vole were returned some 578m west of the site. A more recent record of otter spraint was found under the M48 motorway bridge, approximately 520m from the site. Within 2km hedgehog records have been made;
 - bats accounted for 48 of species records. The closest roost record was that of a day roosting brown long-eared bat (*Plecotus auritus*) some 250m north of the site. A lesser horseshoe night roost was noted some 879m away at Caldicot Castle, and other roost records of summer roosting and hibernating lesser horseshoe bats have been made within 2km of the site;
 - reptiles and amphibians accounted for 17 records, with common toad (*Bufo bufo*) and grass snake (*Natrix helvetica*) recorded 382m from the site, common frog (*Rana temporaria*) 578m from the site, a record of slow-worm (*Anguis fragilis*) approximately 875m from the site and great crested newt (GCN) has been recorded some 1068m from the site;
 - birds accounted for 952 of species records. A historical record from 1963 of grey partridge (*Perdix perdix*) was made at the site. Other Section 7 species recorded 366m from the site include reed bunting, linnet (*Linaria cannabina*), house sparrow (*Passer domesticus*), dunnoek (*Prunella modularis*), starling (*Sturnus vulgaris*), song thrush (*Turdus philomelos*), and bullfinch (*Pyrrhula pyrrhula*).
 - plants accounted for 11 records, with five records of bluebell (*Hyacinthoides non-scripta*) and six records of Section 7 lobed maidenhair spleenwort (*Asplenium trichomanes subsp. pachyrachis*), within 2km of the site;
 - invertebrates accounted for 59 records, with the majority of records being hornet robber-fly (*Asilus crabroniformis*) and four of brown-banded carder bee (*Bombus humilis*) within 2km of the site;
 - fish accounted for 2 the records, with two historical records of European eel (*Anguilla anguilla*) recorded 784m of the site.
- 7.6 MCC's Ecological Connectivity Assessment (Gwent Ecology, 2010), was examined to assess the site in the context of the local landscape. The M48 motorway runs along the north boundary of the site. Linear features represent a main route of connectivity through and out of settlements 1-4 (as outlined in the ecological connectivity assessment). Roads support extensive semi-natural verges, lined with trees, scrub and rough grassland. The Nedern Brook provides a corridor for connection to the M4 corridor. Such features are within the surrounding area of Bradburys Farm, they are not within the site boundary. It was also noted Bradburys Farm is located within a discrete area highlighted for its connectivity for GCN (see Figure 4), which is puzzling due to the lack of records in the area.

8 Survey Results

- 8.1 The extended Phase 1 survey was completed on the 10th October 2019 by an experienced ecologist and an assistant. Details of the conditions under which the survey was conducted are given in Table 2 below. Wind speeds shown employ the Beaufort scale.

Table 2: Summary of Survey Activity and Weather Conditions

Survey Type	Date	Timing	Weather Conditions
Day time visual inspection, botanical survey and habitat assessment, including protected species assessment	10/10/2019	10.20 – 16.00 hours British Summer Time (BST)	Air temperature: 12.5°C Cloud cover: 7/8 oktas Wind speed: F3, gentle breeze Conditions: Dry
Surveyors	Carola Hoskins; Phoebe Williams		

- 8.2 For recording purposes, the site was divided into 7 different habitat types and mapped following the codes and conventions described in the Phase 1 Habitat Survey Handbook (JNCC 2010). Table 3 below describes the on-site habitats. Some of the plant species present are also listed.

Table 3: Summary of Phase 1 Habitat Notes

Habitat	Phase 1 Classification	Description of Area and Typical Species
Type 1	J3.6 Buildings (<1% of the site's surface area)	Four structures are present within a fenced area to the south-east side of the site. Three of the structures are adjoined and are concrete built within roof covering comprising pre-formed metal sheets and slate tiles. A small detached shed like structure is also present in this area, with a concrete frame, it is covered with corrugated metal sheets. All of the structures are open to the elements with various gaps and openings. Ivy (<i>Hedera helix</i>) and nettle (<i>Urtica dioica</i>) were recorded growing out of the structures
Type 2	A1.1.1 Broadleaved Semi-natural Woodland (2% of surface area)	A small area of ancient broadleaved woodland is present at the south-east side of the site. Tree species include hawthorn (<i>Crataegus monogyna</i>), ash (<i>Fraxinus excelsior</i>) and holly (<i>Ilex aquifolium</i>). The understorey species include barren strawberry (<i>Potentilla sterilis</i>), selfheal (<i>Prunella vulgaris</i>) and wood avens (<i>Geum urbanum</i>)
Type 3	B6 Semi-improved species poor grassland (91% of surface area)	The site is composed of a series of grassland fields. Sward height of grassland on site is varied; most fields have a short sward height with evidence of grazing and cutting, the most northerly field comprises denser grassland. Species present within this habitat include creeping buttercup (<i>Ranunculus repens</i>), red clover (<i>Trifolium pratense</i>), common bird's-foot trefoil (<i>Lotus corniculatus</i>) and Yorkshire fog (<i>Holcus lanatus</i>)
Type 4	A2.2 Scattered scrub A2.1 Dense and continuous scrub (1% of surface area)	A thicket of bramble (<i>Rubus fruticosus</i>) scrub grows adjacent to the woodland at the south-east side of the site. Discrete areas of scrub also grow in intervals along the fence line that demarks the lower south-eastern boundary of the site
Type 5	J2.1 Intact hedgerow (Species poor) J2.2.2 – Defunct hedgerow (Species poor) (3% of surface area)	Species poor hedgerow stretches along the majority of the site boundary, with <5 woody species along a typical 30m length. The hedgerow becomes defunct and gappy along the north-west boundary of the site. No hedgerow is present along the south-eastern boundary. The woody component includes ash, beech (<i>Fagus sylvatica</i>), blackthorn (<i>Prunus spinosa</i>), elder (<i>Sambucus nigra</i>) and hazel (<i>Corylus avellana</i>). Adjacent herbaceous plants recorded include cleavers (<i>Galium aparine</i>), Dog's mercury (<i>Mercurialis perennis</i>) and ground ivy (<i>Glechoma hederacea</i>)
Type 6	A3.1 Parkland and scattered trees (<1% of surface area)	Across the site there are several scattered trees, a large proportion of which stand to the south-east of the woodland. Species present include field maple (<i>Acer campestre</i>), oak (<i>Quercus</i> sp.) and ash. Wood sorrel (<i>Oxalis acetosella</i>) was seen growing at the base of an oak tree
Type 7	J2.6 Dry ditch (<1% of surface area)	A short stretch of dry ditch runs parallel to hedgerow along a small section of the western boundary

- 8.3 Target Notes used to describe features of importance and evidence of, or suitability for, protected and priority species are described in Table 4. A Phase 1 map showing the habitats, building layout and Target Notes is displayed in Figure 4. Photographs of the site are provided in Appendix III.

Table 4: Target Notes

Target Note	Description
Target Note 1	Standing dead wood
Target Note 2	Newly planted hedgerow approximately 184m long contains native species hazel and hawthorn. A barbed wire fence runs either side of the newly planted hedgerow for protection
Target Note 3	Four structures identified for their potential for roosting bats
Target Note 4	Newly planted hedgerow approximately 100m in length, contains native species hazel and hawthorn. A barbed wire fence runs either side of the newly planted hedgerow for protection. This newly planted hedgerow connects the on-site woodland to Ballan Wood
Target Note 5	Newly planted hedgerow approximately 185m in length, contains native species hazel and hawthorn. A barbed wire fence runs either side of the newly planted hedgerow for protection
Target Note 6	Grassland field adjacent to the woodland had been recently cut
Target Note 9	Boundary habitat along the eastern edge of the site is woodland edge habitat
Target Note 10	Veteran oak, with relatively few features for roosting bats
Target Note 11	Over-mature ash tree, with low potential for roosting bats. A bracket fungus growth was noted on this tree
Target Note 12	Mature field maple, with light ivy coverage has low potential for roosting bats
Target Note 13	Mature oak tree with potential roost features for bats, by way of woodpecker holes
Target Note 14	Mature oak tree with potential roost features for bats
Target Note 15	Over-mature oak tree

- 8.4 Most of the survey area is covered in species poor semi-improved grassland. Generally grassland across the site is relatively short, with evidence of grazing and recent mowing activity. Towards the north of the site, the grassland is slightly denser. Overall, there is generally a low coverage of

wildflowers, and most of the species consist of creeping buttercup, meadow buttercup (*Ranunculus acris*), cock's-foot (*Dactylis glomerata*), and dandelion (*Taraxacum officinale*). Due to this poor diversity of species, the grassland areas, particularly those that are heavily grazed, are not considered to be of ecological value.

- 8.5 A small piece of gently sloping woodland is present at the south-east side of the site. It is called Crown Hill wood and is listed under the Ancient Woodland Inventory as restored ancient woodland. Similarly, Ballan Wood, the stretch of woodland along the eastern side of the site is listed as a combination of ancient semi-natural woodland and restored ancient woodland. This is also a SINC. 'Guidelines for the Selection of Wildlife Sites in South Wales' (Gwent Wildlife Trust, 2004) state that all ancient woodlands as recorded in the Ancient Woodland Inventories (apart from those felled and replanted with non-native species), should be considered for selection as a SINC, therefore Crown Hill wood is considered a potential SINC.
- 8.6 With reference to guidance on the determination of veteran trees (Reed, 2000), a single specimen of oak, which stands close to the western boundary at the south-west end of the site, is classed as veteran. Two additional trees, an oak and an ash do not contain the considerable girth, decay, damage to merit veteran status they are instead assessed as being over-mature. A further three trees, two oak and a single field maple situated within close proximity to the woodland at the south-east side of the site, are assessed as being at least semi-mature, if not mature.
- 8.7 A detailed inspection of every tree on site was not made. However, five of six trees listed above were noted as having potential roost features for bats. Features include ivy coverage, small cavities and woodpecker holes. Since the reasonably rapid walkover survey did not assess trees within the woodland in detail, it is possible additional survey effort in the future may reveal additional trees with potential to support roosting bats.
- 8.8 In terms of habitat quality, the grassland, scrub and woodland edge habitat are likely to attract sufficient flying insects to provide suitable foraging opportunities for bats. The site as a whole is likely to have dark vegetated corridors and linear connectivity to the wider countryside.
- 8.9 Boundaries of the site are made up of hedgerow and woodland edge habitat, with fewer than five woody native species within a specified length. A stretch of approximately 890m of hedgerow was recorded at Target Note 9 along the eastern boundary. This was distinct from the remainder of the boundaries of the site, which was characterised as woodland edge habitat. Across the site, although the majority of hedgerow was intact, it is not species rich. It is therefore, not classified as important under the Hedgerows Regulations. However, it does feature several associated features in accordance with the Hedgerow Regulations which are considered notable. These included:
- gaps accounting for less than 10% of its length;
 - connections with other hedgerows and woodland.
- 8.10 An assessment of the built structures was made to consider their suitability for roosting bats as indicated by their condition, construction materials etc. The assessment considered the presence of Potential Roosting Features (PRFs) and also looked for evidence of roosting or live sightings. Suitability criteria follow guidelines as stipulated by the 'Bat Surveys Good Practice Guidelines' (Bat Conservation Trust, 2016). Details are summarised in Table 5 below.

Table 5: Suitability of Buildings for Roosting Bats

Building Ref	Description	Potential Roosting Features (PRFs)/ Evidence of Use	Suitability
1	Three attached concrete structures. Covered with a mix of tiles and pre-formed metal sheeting. No doors or window are present, just the space in which they once were. Timber fascia boards	Entrance and exit points are present by way of missing windows and doors. Dropped roof tiles. Small gap under timber fascia board	Low for day roosting. Suitable for night-roosting/feeding perch with easy flight line openings
2	A single detached shed-like structure, with a concrete frame covered with corrugated metal sheeting	Open fronted structure, provides obvious entrance and exit point	Negligible for day-roosting and low potential night-roosting

- 8.11 Ecological assessment included identification of the potential for protected and priority species to be present on site. [REDACTED]

- 8.12 Hazel dormice are not only a woodland species, but also make use of connecting hedgerows and scrub, both for dispersal and long-term purposes. The hedgerow, scrub and woodland habitat on site are considered to be suitable, in particular habitat that is directly linked to Ballan Wood which is a known location for dormice, as shown by the data search. Although no evidence for the presence of dormice was found during the survey, habitat on site is considered suitable.
- 8.13 Reptiles favour tussocky, rank grassland with areas of bare ground, along with varied vegetative architecture. The grassland is mostly short and heavily grazed, which offers minimal shelter and protection for reptiles. No reptiles were found during the survey and the grassland habitat on site is of limited interest to reptiles due to its uniform structure.
- 8.14 Amphibians require ponds in which to breed and good quality terrestrial habitat that provides shelter, grassland on site is not considered suitable. No ponds are present on site. However, since GCN are known to use terrestrial habitat up to 500m from their breeding ponds, the wider landscape must also be taken into consideration. From reviewing maps and aerial photographs, three ponds are present within 500m of the site. One pond is roughly 240m to the west of the site, another approximately 400m to the east and a third approximately 250m south of the site. Historical records of GCN have been made some 1.07km from the site, no records for these other ponds were returned by the data search.
- 8.15 All areas of woodland, scrub and hedgerow provide suitable habitat for nesting birds. A single jay (*Garrulus glandarius*), was heard in the woodland on site. Although no Section 7 birds were observed during the site visit, a large number of Section 7 birds including reed bunting, linnet house sparrow, dunnoek, starling and song have been recorded within a short distance of the site at Nedern Brook Wetlands SSSI. A more detailed breeding bird survey earlier in the season would be required to comprehensively assess the site's use by breeding birds.
- 8.16 No Section 7 invertebrates were found during the survey and the presence of such species cannot be ruled out without more targeted surveys.
- 8.17 The site does not contain suitable cover or foraging habitat for otter. There are no watercourses on site. Historical records of otter have been returned in the local area.
- 8.18 A record of a polecat was made at the site and hedgehog was recorded within the surrounding area, more extensive survey effort would be required to comprehensively assess the site's status for these species.

9 Discussion and Conclusions

- 9.1 Bradburys Farm at Crick, is being put forward as a candidate site under the Local Development Plan. Table 6 below presents a summary table for ecological features identified at Bradburys Farm. Where further survey is or may be required, this is indicated in the relevant column.

Table 6: Summary of Ecological Features

Habitat	Ecological Value	Further Survey
Broadleaved semi-natural woodland	Semi-natural habitat confirming with criteria of Section 7 Priority Habitat. Potential to qualify as a SINC, valuable in the context of the site. Habitat is potential value to protected/priority species, although this has not been confirmed.	Yes, if impacts cannot be avoided - NVC - Foraging and commuting bats - Badger
Semi-Improved species poor grassland	Discrete areas of widespread habitat not of intrinsic ecological value in itself but potentially valuable to other protected/priority species such as reptiles (northern end of the site), invertebrates and song thrush, although this has not been confirmed	Possibly for invertebrates
Buildings	Negligible ecological value in itself, but of potential value to other protected/priority species such as nesting birds and bats	Yes Bats
Hedgerow	Boundaries of the site composed of hedge and woodland edge habitat. Records of dormice, and badger in Ballan Wood, woodland edge	Yes Dormice

	habitat to the east of the site. Evidence of badger found during the survey	
Scattered trees	Several trees across the site identified as mature, over-mature and a single veteran tree. Potential for protected/priority species such as nesting birds and roosting bats	Yes Further assessment of trees to identify PRFs
Protected/Priority Species		
Badgers		
Water vole	Site considered unsuitable and of negligible value for this species	None
Otter	No watercourse present and the site does not contain suitable foraging and shelter habitat	None
Dormouse	Suitability provided by woody habitats around site periphery, confirmed presence of dormice in Ballan Wood	Yes
Other Section 7 Mammals (Excluding bats)	The habitats provide some suitable habitat for species such as European hedgehog and polecat	No
Bats (Roosting)	Buildings and trees with PRFs	Yes
Bats (Foraging/commuting)	Woodland corridors likely to be of some value to foraging and commuting bats	If impacts including lighting cannot be avoided
Birds (nesting)	Woodland corridors, scrub and hedgerows are suitable for breeding efforts of birds	Breeding bird survey
Section 7 Birds	Habitats on site considered suitable for house sparrow, dunnock and song thrush	Breeding bird survey is likely to flag up presence of these species
Reptiles	Limited suitability for reptiles	None
Amphibians	Limited suitability but ponds within vicinity and listed as connectivity opportunity for GCN	Yes
Invertebrates	Some suitability for invertebrate communities	Possibly. Entomologist to assess likelihood of usage due to low sward height

9.2 The desktop study and field survey results were both used to evaluate the ecological value of the site's different habitat and species in accordance with Monmouthshire County Council's own evaluation criteria described in 'Guidelines for the Selection of Wildlife Sites in South East Wales' (Gwent Wildlife Trust, 2004). A completed Site Summary Form is provided in Appendix IV. Different habitat types and species groups have been assessed separately using the available information. An overall site value for biodiversity is also defined based on the available information. No indicative layout proposals are known for the site.

9.3

9.4 Although no evidence of hazel dormice was recorded during the survey, habitat on site is considered suitable. Hedgerows connect to Ballan Wood, which is a known site for dormice as shown by the data search. The on-site woody habitats have potential to support breeding, nesting and foraging activities of dormice. This includes the strip of trees just outside the northern end of the site. The woodland at the south-east corner of the site is in itself suitable dormouse habitat, however it is somewhat isolated from the wider landscape with a lack of connecting features. The newly planted hedgerow to the north-west of the woodland, will work to link the on-site woodland habitat to adjacent Ballan Wood. Further survey effort is required ahead of any planning proposal.

9.5 Generally the habitat on site is considered unsuitable for reptiles. The majority of the grassland fields are heavily grazed, with the exception of the most northerly field where the grassland is slightly denser. Reptile presence was not established during this initial survey and is considered unlikely. Furthermore, considering the scarcity of local reptile records reported by the data search, it is considered unlikely that the site would either support a diverse range or a good population of reptiles even if they were present.

9.6 Three ponds are located within 500m of the site and the south-east corner of the site is highlighted on the GCN and ponds connectivity opportunities map (Figure 4). The habitats on site have low

suitability for GCN and their potential presence on site can therefore not be completely discounted until further survey effort of the ponds within 500m has been carried out.

- 9.7 Crown Hill wood, the woodland on site is listed under the ancient woodland inventory as restored ancient woodland. 'Guidelines for the Selection of Wildlife Sites in South Wales' (Gwent Wildlife Trust, 2004) state that all ancient woodlands as recorded in the Ancient Woodland Inventories (apart from those felled and replanted with non-native species), should be considered for selection as a SINC. This habitat type accounts for a small proportion of Bradburys Farm. Ahead of planning proposals, measures must be in place to safeguard this onsite woodland in addition to the hedgerows that connect to the adjacent Ballan Wood.
- 9.8 None of the other habitats on site – including the areas of grassland and scrub – were particularly valuable. Although all hedgerows have some intrinsic ecological value to a certain extent, hedgerows on site are not species-rich or important so would not alone warrant the site's selection as a SINC habitat. None of these habitats featured the botanical diversity necessary to meet the standard criteria as Schedule 7 habitats. Nevertheless, they are suitable for other protected/priority species so do possess ecological value in this context.
- 9.9 Although no Section 7 birds were observed during the site visit, all areas of woodland, scrub and hedgerows provide suitable nesting bird habitat. Presence of the nearby Nedern Brook SSSI and the bird species returned with the record search also highlight the potential for the grassland areas to be used by ground-nesting birds. Without a more focused breeding bird assessment in the spring or early summer months, it is not possible to formally assess the site for the breeding birds listed on Table 9 (Gwent Wildlife Trust 2004). Although some further survey effort is recommended ahead of any future planning application, there would nonetheless be scope for safeguarding nesting birds on site with habitat retention/enhancement measures and artificial nesting opportunities.
- 9.10 Overall, using MCC's Evaluation Criteria, the site is assessed as having medium value. Although further survey effort is required to more comprehensively assess ecological features (Table 7), only one part of the site is of SINC quality. It is considered unlikely that further survey information would trigger the site's upgrade from 'medium' to 'high' value even if additional species were recorded. Furthermore, despite the potential for ecological impacts on protected and priority species, there is no reason why such impacts could not be avoided or appropriately mitigated with a well-conceived design layout and responsible build/management strategy. Indeed, the site's allocation is likely to present several opportunities for ecological enhancements. Overall, this baseline assessment presented no major ecological constraints that would prevent the former site's LDP allocation.

10 Recommendations

- 10.1 Below, in Table 7, is a summary of the recommended further survey effort for more comprehensively assessing ecological impacts prior to a formal planning application.

Table 7: Summary of Recommended Further Survey

Species/Habitat Feature	Scope of Work	Timescale
Broadleaved semi-natural woodland	If future LEMP proposals will incorporate a long-term woodland management and / or restoration plan, this must be informed by a NVC assessment of the broadleaved woodland habitat - both inside and outside the site boundaries	April to July
Dormouse	If impacts on wooded areas, hedgerows and dense scrub are anticipated, a dormouse nest-tube survey must be considered for establishing the presence or absence of this species prior to a planning application	April to November for standard nest-tube surveys
Badger	[REDACTED]	[REDACTED]
Bats	Further survey effort must be completed to fully assess the impacts on roosting bats in buildings and trees on site	May to September
Breeding/nesting birds	An initial 'scoping' breeding bird survey between mid-March to mid-April, by an experienced ornithologist to assess the extent to which Section 7 or Red Listed bird species may be impacted. The results of this must be used to inform whether any further survey effort would be reasonable and proportionate for informing a suitable mitigation strategy, LEMP proposals and/or artificial nesting provisions	Mid-March to mid-April
Great crested newts	Either presence/absence surveys or eDNA surveys of all three ponds within the vicinity	March to June

- 10.2 Protection of the woodland, veteran tree and hedgerow habitat within and around the site must be a priority during and following any proposed development. This must include root protection areas, as well as protection from light pollution. The recommended survey effort will also flag up any additional measure to be observed.
- 10.3 The area of semi-natural broadleaved woodland and hedgerows are the most ecologically valuable habitats on site. Although habitats on site and their subsequent management would inevitably change following any future development, this would not necessarily affect the structure or function of the woodland area providing appropriate safeguards and management processes were put in place. In particular, the following is recommended:
- any future layout design must, as a minimum, allow for the protection of these areas following guidance set out by British Standards (BS 5837:2012 Trees in relation to design, demolition and construction). This would ensure these features are suitably protected from any direct physical damage during construction;
 - the existing woodland could also be reinforced by planting additional woodland habitat adjacent to the boundaries with native woodland species such as oak, hazel, blackthorn, hawthorn, holly and field maple (pending the results of any future NVC assessment).
- 10.4 Future landscape proposals must be informed by the results of further surveys for badgers, amphibians, dormice, bats and nesting birds. Dark corridors must be maintained around and where possible also across the site.
- 10.5 A Landscape and Environmental Management Plan (LEMP) must cover how retained and newly planted habitats will be managed in the long-term. The LEMP must also set out any measures necessary to ensure protected species are appropriately safeguarded.

11 References

- Anon (2010). *'Ecological Connectivity Assessment of Settlements in Monmouthshire Report'*. Gwent Ecology, Monmouth
- Anon (2017). *'Guidelines for Preliminary Ecological Appraisal – 2nd Edition'*. Chartered Institute of Ecology and Environmental Management, Winchester
- Collins, J. (Ed.) (2016). *'Bat Surveys for Professional Ecologists – Good Practice Guidelines, 3rd Edition.'* Bat Conservation Trust, London
- Anon (2004). *'Guidelines for the Selection of Wildlife Sites in South Wales'*. Gwent Wildlife Trust, Monmouth
- Joint Nature Conservation Committee (1993). *'Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit'*. JNCC, Peterborough
- Natural England (2010). *'Farm Environment Plan (FEP) Manual – 3rd Edition'*. Natural England, Peterborough
- Reed, H (2000). *'Veteran Trees: A Guide to Good Management'*. Natural England, Peterborough
- Rose, F. (1981). *'The Wild Flower Key'*. Frederick Warne, London

Appendix I: Site Plan

Figure 1: Site location plan



Aerial View of the Site

Site Reference:
GEN1619B

Map Scale:
1:125,000 & 1:12500

Source:
© Google Satellite Imaging
2019

The logo for Just Mammals Consultancy, featuring a paw print above the word 'just' in a stylized font, followed by 'MAMMALS' in large, bold, black capital letters, and 'Consultancy' in a smaller font below it. Below the company name, it says 'Limited Liability Partnership'.

Legend

- site location
- Site boundary

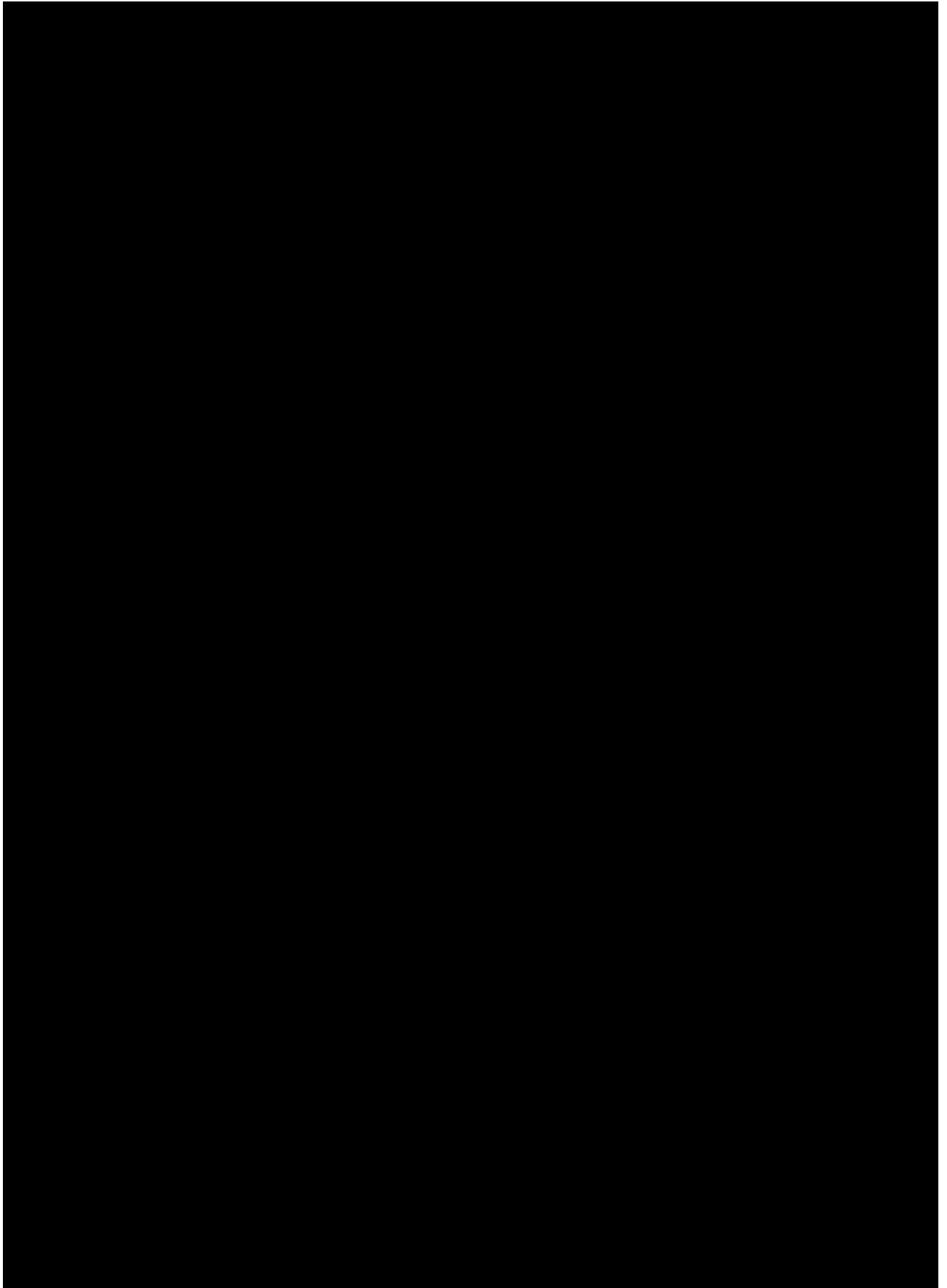


Figure 3: Page 37 of MCC's ecological connectivity assessment with Bradburys Farm highlighted by the red circle

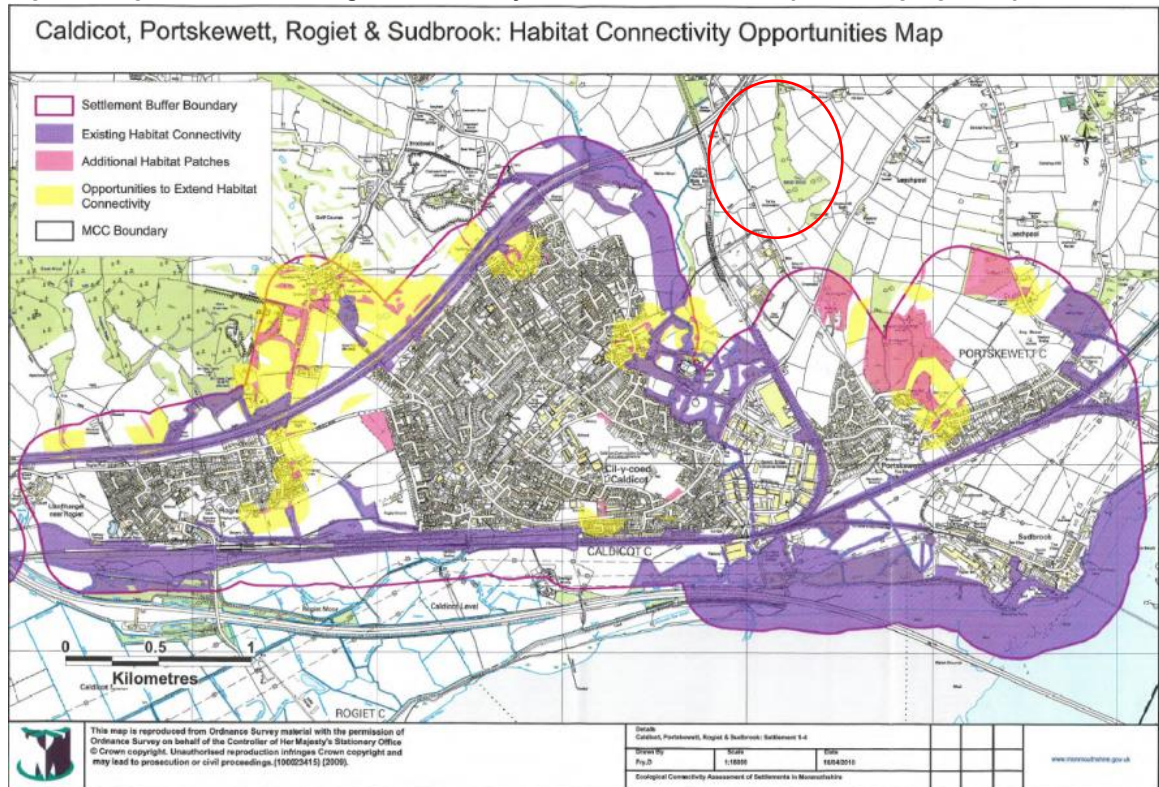
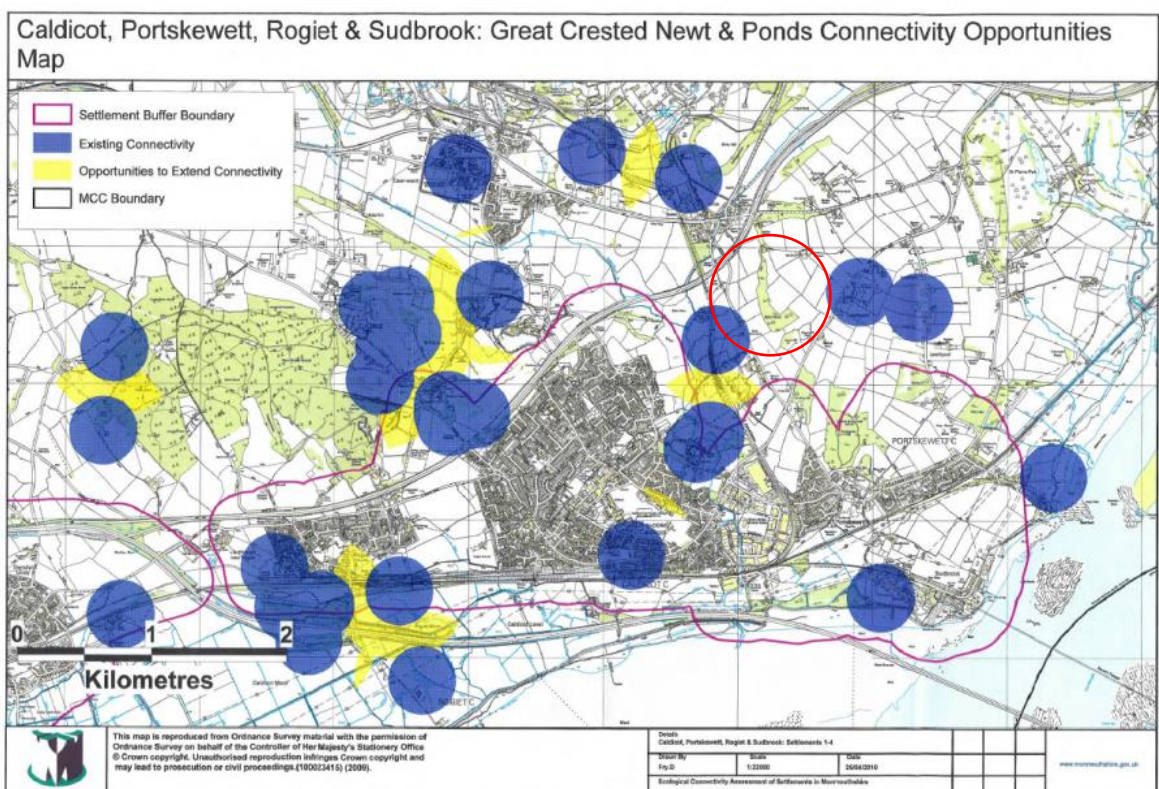


Figure 4: Page 39 of MCC's ecological connectivity assessment with Bradburys Farm highlighted by the red circle



Appendix III: Site Photographs

Plate 1: Looking east across the site



Plate 2: Looking north-east across the site



Plate 3: Concrete structures, eastern end of site



Plate 4: Detached structure, eastern end of site



Plate 5: Looking east across the site



Plate 6: Scattered trees with scrub

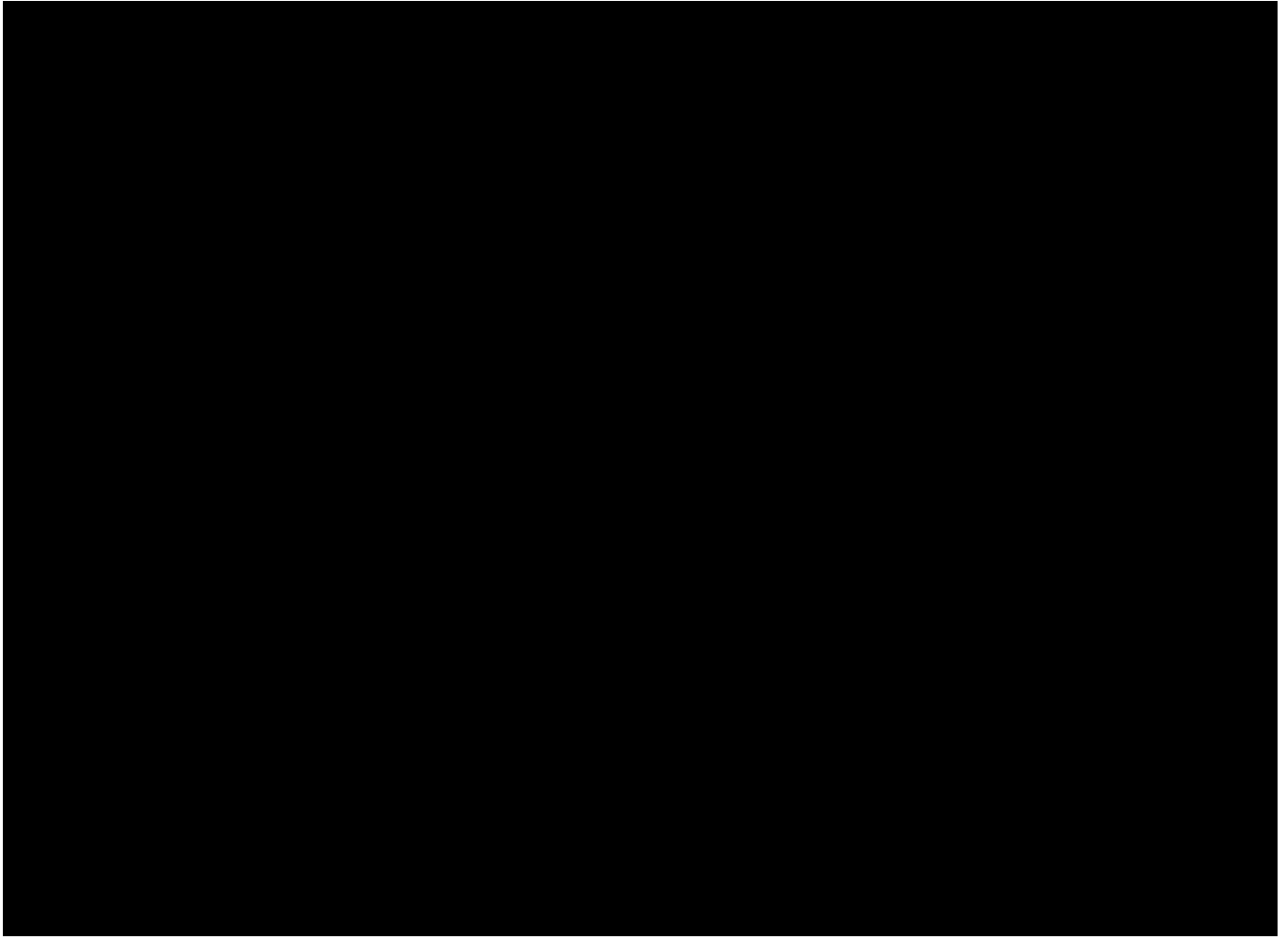


Plate 7: Woodland and scrub habitat, east of site



Plate 8: Looking south across Bradburys Farm





Appendix IV: Site Summary Form**Reference No: CS/0000**

Site General Information			
Name: Bradburys Farm		Grid Reference: ST 49094 89544	
Current land use and management: agricultural holding (grazing)		Size: 29.08ha	
Proposed use: unknown		Form Completed by: Just Mammals Consultancy LLP	
Overall Site Evaluation: HIGH / MEDIUM / LOW			
Site Summary Table			
Statutory Designated Site(s)	No	Section 7 Habitat(s)	Part
SAC Juvenile sustenance zone	No	Protected Species	Yes
Non Statutory Designated Site(s)	Yes	Section 7 Species	Possible
SINC Recommendation	Part	Ecological Connectivity	Yes
SEWBRc unique data code: 0190-384			

Statutory Designated Sites

Is the site within or adjacent to an International or European Designated Site? (Special Protection Area, Ramsar Site or Special Area of Conservation) (*Underline the relevant designation*)

Whole of site	☐
Part of site	☐
Directly adjacent/within 250m buffer	☐
Within 500m buffer	☐
Within 1km buffer	☐
No	☒

Is the site within or adjacent to a Nationally Designated Site? (National Nature Reserve or Site of Special Scientific Interest) (*Underline the relevant designation*)

Within	☐
Part of site	☐
Directly adjacent/within 250m buffer	☒
Within 500m buffer	☐
No	☐

Juvenile sustenance zones – is any part of the site within 1km of a greater horseshoe bat roost SSSI or within 600m of a lesser horseshoe bat roost SSSI?

Greater horseshoe	☐
Lesser horseshoe	☐
Distance from roost (m)	☐
No	☒

Non Statutory Designated Sites

Is the site within or adjacent to a pre-designated Locally Designated Site? (Local Wildlife Site/Site of Importance for Nature Conservation or Ancient Semi Natural Woodland)

Within	☐
Part of site	☐
Directly adjacent/within 250m buffer	☒
Within 500m buffer	☐
No	☐

List All Relevant Statutory and Non-Statutory Designated Sites identified by the desktop study:

Nedern Brook SSSI
 Ballan Wood SINC, ASNW, RAWS
 Farthing Hill SINC, ASNW, RAWS
 Portskewett Hill SINC, RAWS

SINC Recommendation

Is the whole site or part of the site of SINC (LWS) quality? (*Underline whole or part as appropriate*)

Yes: ☐ Whole: ☐ Part: ☒

Qualifying criteria:

RAWS

Borderline: ☐

No: ☐

Has the Monmouthshire County Council Biodiversity and Ecology Team been contacted to discuss what further information may be required?

Yes: ☐ No: ☒

Date:

Priority Habitats and Important Features

Phase 1 Habitat	Wales Priority Habitat (Section 7)	% of whole site
A1 Broadleaved semi-natural woodland	Lowland Mixed Deciduous Woodland	2%

Are there any **veteran trees or over-mature trees** on site?

Yes: ☒

No: ☐

If 'Yes' how many and what species?

1 x veteran oak, 1 x over-mature oak, 1 x over mature ash

Does the site have any **hedgerows**?

Species-rich (high) potential
Hedgerow Regs Quality

0

Length (m)

Species-poor (medium)
Has some potential

>3000

Length (m)

Species-poor (low)
Single species dominant AND Gappy

0

Length (m)

No

Does the site have any **water features** present?

Ponds

☐

Streams

☐

Ditches (dry ditch)

☒

Other:

☐

No

☐

Ecological Connectivity

Adjacent Land Uses and Habitats

Pastoral land, some woodland and Nedern brook SSSI. Southern part of site identified as having potential to improve connectivity for GCN.

Does the site have any ecological connectivity value to either adjacent habitat or the wider landscape?

Critical connectivity: ☐ Existing connectivity: ☒ No connectivity: ☐
 Connectivity Opportunity: ☒

Protected Species

Have protected species been recorded at the site/reasonably likely to be present at site?

Confirmed: ☒ Reasonably likely: ☐ No and unlikely to be present: ☐

List Species: SEWBRcC record	Evidence of presence on site (seen directly or field signs)	Potential to be present on site (habitat and location mean that it is likely)
		Dormouse Bats Amphibians Breeding birds

Priority Species

Are there records for Priority (Section 7) Species (not included above)?

Yes: ☒ Potential: ☐ No: ☐

List Species: SEWBRcC record	Evidence of presence on site (seen directly or field signs)	Potential to be present on site (habitat and location mean that it is likely)
Polecat		European hedgehog

Conclusions

What additional ecological surveys/assessments will be required?

To determine if the site could be allocated for the purpose identified None	Prior to the submission of planning application to influence site design etc. NVC survey of broadleaved woodland habitat. Further bat roost surveys of trees and buildings Dormouse nest-tube surveys (if impacts cannot be avoided). Breeding bird assessment. Amphibian survey
---	--

Summary of potential biodiversity constraints

<u>Habitats</u>: Broadleaved semi-natural woodland; hedgerow; scattered trees (veteran, over-mature and mature) Protected/Priority species (confirmed): badger Protected/Priority species (reasonably likely): dormouse; amphibians, European hedgehog; polecat. Protected/Priority species (unlikely, but precautionary approach recommended)
--

Recommended avoidance/mitigation/compensation measures

Design layout to avoid and protect the Root Protection Areas (RPAs) of adjacent woodland habitat as set out by British Standards (BS 5837:2012 Trees in relation to design, demolition and construction). Any future landscape proposals (including appropriate compensation measures if necessary) to be informed by the results of further protected species surveys including reptile, dormouse (if necessary), breeding birds and invertebrates. A landscape and environmental management plan (LEMP) for the operational site to cover how retained, newly planted habitats and species-specific measures will be managed in the long-term. Any future layout proposals (including appropriate compensation measures if necessary) to be informed by the results of a more comprehensive site-wide bat roost assessment.

Enhancements that could be delivered through development including ecological connectivity opportunities

Reinforce existing woodland with additional planting (pending the results of any future NVC assessment). Long-term strategy for restoring the on-site (and off-site if feasible) areas of woodland to previous levels of quality. A permanent wildlife pond to be integrated into the layout and managed appropriately in the long-term.

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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.co.uk to see the full range of services we offer and some of the projects we have undertaken in the past.



Natural Problem Solvers

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