

# Land at Verlon Farm, Montgomery Preliminary Ecological Appraisal

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**Prepared for Hughes Architects**

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## ***SURVEY AND REPORT VALIDITY***

It is important that planning decisions are based on up-to-date ecological reports and survey data. However, it is difficult to set a specific timeframe over which reports or survey data should be considered valid, as this will vary in different circumstances. In some cases there will be specific guidance on this (such as for the age of data which may be used to support a Protected Species Licence application) but in circumstances where such advice does not already exist, the Chartered Institute of Ecology and Environmental Management (CIEEM) has provided the general advice set out below.

<b><i>Age of Data / Survey / Report</i></b>	<b><i>Validity</i></b>
<b>Less than 12 months</b>	Likely to be valid in most cases.
<b>12-18 months</b>	Likely to be valid in most cases with the following exceptions: <ul style="list-style-type: none"> <li>• Where a site may offer existing or new features which could be utilised by a mobile species within a short timeframe;</li> <li>• Where a mobile species is present on site or in the wider area, and can create new features of relevance to the assessment;</li> <li>• Where country-specific or species-specific guidance dictates otherwise.</li> </ul>
<b>18 months to 3 years</b>	A professional ecologist will need to undertake a site visit and then review the validity of the report. Some or all of the other ecological surveys updated.
<b>Protected Species Licensing</b>	Licence applications usually only possible using data less than 2 years old

The likelihood of surveys needing to be updated increases with time and is greater for mobile species or in circumstances where the habitat or its management has changed significantly since the surveys were undertaken. Factors to be considered include (but are not limited to):

- Whether the site supports, or may support, a mobile species which could have moved on to site, or changed its distribution within a site;
- Whether there have been significant changes to the habitats present (and/or the ecological conditions/functions/ecosystem functioning upon which they are dependent) since the surveys were undertaken, including through changes to site management;
- Whether the local distribution of a species in the wider area around a site has changed (or knowledge of it increased), increasing the likelihood of its presence.

## Table of Contents

1	Introduction.....	7
1.1	Purpose of Report.....	7
1.2	Ecological Context.....	8
2	Methods.....	11
2.1	Desk-based Study.....	11
2.2	Phase 1 Habitat Survey.....	11
2.3	Protected Fauna Survey and Assessment.....	11
2.3.1	Badger.....	11
2.3.2	Bats.....	12
2.3.3	Dormouse.....	12
2.3.4	Nesting birds.....	12
2.3.5	Great Crested Newt.....	12
2.3.6	Reptiles.....	12
2.4	Constraints.....	13
2.5	Criteria for Assessment.....	13
3	Results.....	15
3.1	Desk Study.....	15
3.1.1	Designated Sites.....	15
3.2	Ecological Surveys.....	15
3.3	Phase 1 Habitat Survey.....	16
3.3.1	Improved grassland.....	16
3.3.2	Semi-improved grassland.....	18
3.3.3	Tall ruderals.....	19
3.3.4	Hedgerow and trees.....	19
3.3.5	Watercourse.....	23
3.3.6	Hardstanding.....	24
3.4	Protected Fauna.....	24
3.4.1	Badger.....	24
3.4.2	Bats.....	24
3.4.3	Dormouse.....	24
3.4.4	Birds.....	24

3.4.5	Great Crested Newt .....	25
3.4.6	Reptiles.....	25
3.4.7	Other species .....	25
4	Evaluation .....	26
4.1	Summary of Proposals.....	26
4.2	Habitats .....	26
4.2.1	General .....	26
4.2.2	Mitigation .....	27
4.3	Protected Fauna .....	28
4.3.1	Badger .....	28
4.3.2	Bats.....	29
4.3.3	Dormouse .....	29
4.3.4	Nesting Birds.....	29
4.3.5	Great Crested Newt .....	30
4.3.6	Reptiles.....	31
4.3.7	Other species .....	32
5	Legal Protection .....	33
5.1	Badger .....	33
5.2	Bats.....	33
5.3	Dormouse .....	34
5.4	Nesting Birds.....	34
5.5	Great Crested Newt .....	35
5.6	Common Reptile Species.....	35



## 1 INTRODUCTION

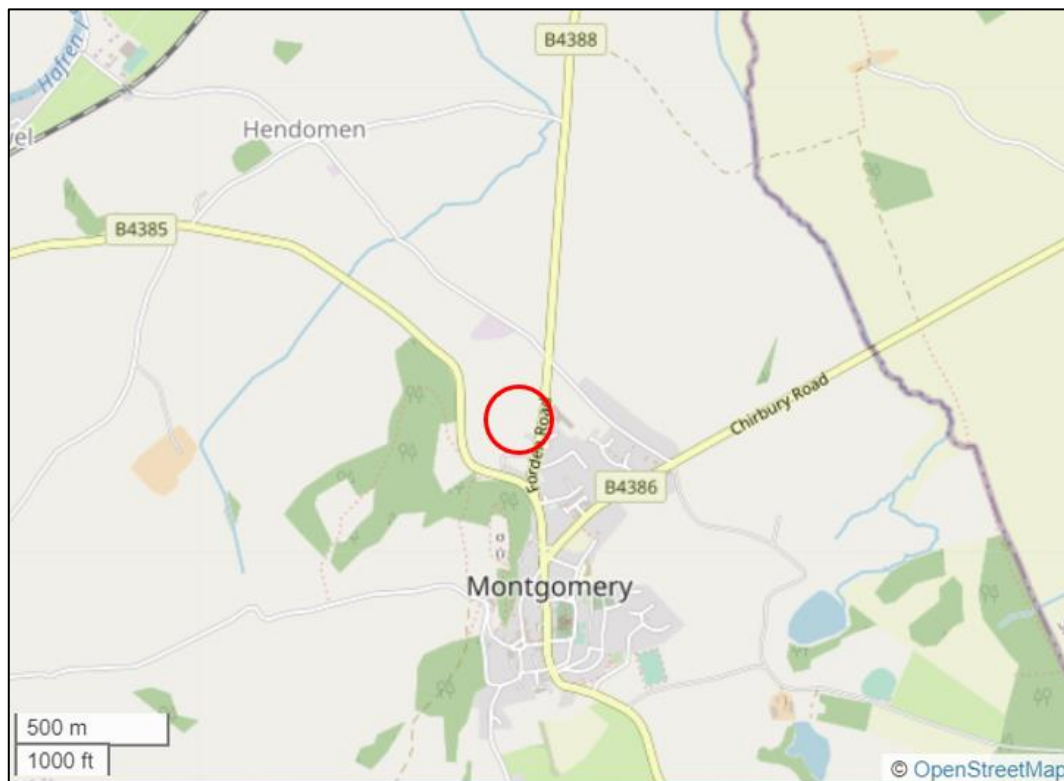
### 1.1 Purpose of Report

This Preliminary Ecological Appraisal (PEA) has been completed in connection with a residential development on land at Verlon Farm, Montgomery, Powys (OS Grid Location SO 222 971). The location of the proposed development sites is shown in *Figure 1* and the proposed development plans are fully detailed in *Section 4*.

The site survey was carried out on 10<sup>th</sup> November 2022 by Turnstone Ecology Ltd and consisted of a Phase 1 Habitat Survey and a Protected Fauna Survey and Habitat Suitability Assessment.

This report details survey and assessment methodology along with the results of a desk-based study and on-site surveys. It also provides an assessment of potential impacts and appropriate mitigation to offset any impacts associated with the proposal and to satisfy national and local planning policies.

*Figure 1. Location of proposed development*



## 1.2 Ecological Context

The proposed development site is located on the northern edge of Montgomery, Powys and comprises nine adjacent grass fields (*Figures 2 and 3*). The proposals involve the creation of 54 dwellings and associated gardens, access roads and a drainage area.

The development site boundaries are formed by hedgerows with scattered trees and a post and wire fence. Field boundaries within the site consist mainly of post and wire fenced and some hedgerows and scattered trees with two small watercourses passing through northern and southern parts of site. A new northern boundary will be created dividing the existing fields. The B4388 and a farm with associated buildings and gardens border the eastern fields. Gardens of residential dwellings border the southern end of site with an access road to these dwellings cuts through the southern part of site.

The village of Montgomery beyond to the east and south-east and agricultural fields border the site to the west and north. An area of broadleaved woodland is located approximately 50m south and 150m west of the site. The wider landscape is dominated by agricultural fields, scattered trees and dwellings.



Figure 2. Proposed development site (blue line boundary)

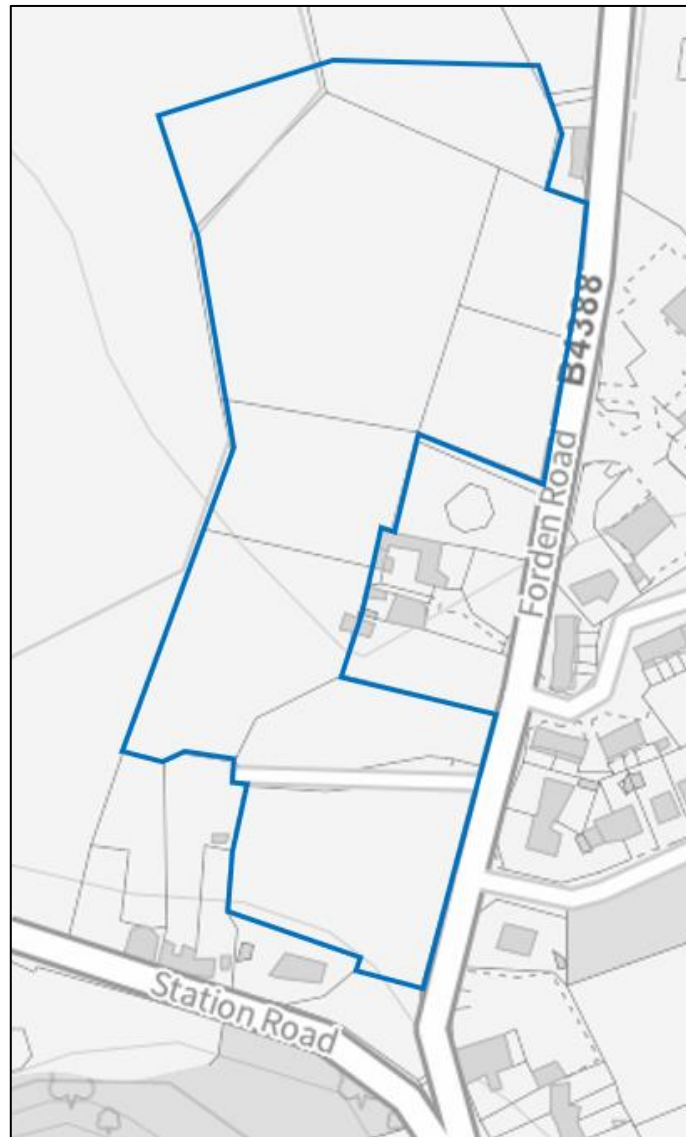


Figure 3. Aerial image of site (blue line = development area) [www.bing.com/maps](http://www.bing.com/maps) accessed 28.11.22



## 2 METHODS

### 2.1 Desk-based Study

Information relating to designated sites and historic records of protected species within 2 km of the proposed development site were obtained from Magic ([www.magic.gov.uk](http://www.magic.gov.uk)) and other freely available information on the internet, such as planning portals.

Any species-specific historic records are detailed within the relevant species accounts in the *Results* section.

### 2.2 Phase 1 Habitat Survey

The survey methods were based on the Phase 1 Habitat Survey approach (Joint Nature Conservation Committee 2010), which is a standardised method to survey main habitat types. Plant nomenclature in this report follows Rose (*Revised Edition 2006*) for native, naturalised, and garden varieties of vascular plant. Introduced species and garden varieties are not always identified.

### 2.3 Protected Fauna Survey and Assessment

The habitats on site were assessed for suitability for protected fauna that occur in the region and obvious signs and incidental sightings of protected species were noted where present. Taking into consideration the geographical region and habitat types on and adjacent to site, the protected species and species groups that could be encountered are listed below.

- Badger
- Bats
- Dormouse
- Nesting birds
- Great Crested Newt
- Reptiles

Details of initial survey methods for each relevant species are given below.

#### 2.3.1 Badger

Where access allowed, a comprehensive assessment was carried out to identify areas that are used by Badgers (*Meles meles*) for foraging and sett digging. Signs of Badgers including setts, foraging signs, paths and latrines were recorded where present.

### 2.3.2 Bats

Any buildings and trees on or adjacent to the site were visually surveyed to assess them for their potential to support roosting bats, although a thorough inspection of all potential roosting features would not be undertaken as part of the Phase 1 survey.

Habitats were assessed for their suitability for use by foraging or commuting bats. Areas of particular interest vary between species, but generally include sheltered areas and those habitats with good numbers of insects, such as woodland, scrub, hedges, watercourses, ponds, lakes and more species-rich or rough grassland.

### 2.3.3 Dormouse

Habitats were assessed for their general suitability for use by Dormouse (*Muscardinus avellanarius*), which generally use areas of dense woody vegetation cover. Dormice are most likely to be found where there is a wide diversity of woody species contributing to three-dimensional habitat complexity, a number of food sources, plants suitable for nest-building material and good connectivity to other areas of suitable habitat. A search for hazelnuts opened by Dormouse was also completed on and adjacent to site.

### 2.3.4 Nesting birds

Habitat that might be used by nesting birds was identified and actively nesting birds or evidence of nesting birds noted where present. Special consideration was given to the potential presence of Barn Owl (*Tyto alba*), which is a Schedule 1 protected bird species.

### 2.3.5 Great Crested Newt

The suitability of any aquatic and terrestrial habitat on the site, and in the immediate vicinity, was assessed for suitability for use by Great Crested Newts (*Triturus cristatus*). Great Crested Newts are known to travel up to 500 m between breeding ponds and suitable terrestrial habitat, so a desk-based search was undertaken for any ponds up to 500 m from the site using OS maps and aerial imagery. The terrestrial habitat between the site and these ponds, and therefore connectivity to the site, was also considered.

### 2.3.6 Reptiles

The site was assessed for suitability for use by widespread species of reptiles, with particular attention paid to those features that could be used as basking areas (*e.g.* south-facing slopes), hibernation sites (*e.g.* banks, walls, piles of hardcore) and opportunities for foraging (*e.g.* rough grassland and scrub). The site was assessed for its suitability for the commoner reptile species which have broadly similar habitat requirements but more specific requirements include those shown below (Beebee & Griffiths 2000).

- Common Lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one habitat they use is brownfield sites.

- Slow-worms (*Anguis fragilis*) use similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land.
- Grass Snakes (*Natrix natrix*) have broadly similar requirements to Common Lizards but with a greater reliance on ponds and wetlands, where they prey on amphibians.
- Adder (*Vipera berus*) use a range of fairly open habitats with some cover but are most often found in dry heath.

## 2.4 Constraints

November is not an ideal time to undertake Phase 1 surveys as certain plants may not be present or identifiable and certain animal signs may be harder to detect. However, for a site of this habitat composition and location it is not considered that this would have had a significant effect on the survey results or assessment of the site.

## 2.5 Criteria for Assessment

The scientific value of habitats for nature conservation is assessed according to widely accepted criteria of which the most important are naturalness, extent, rarity, and diversity.

The assessment of impacts is based on the principles within Chartered Institute of Ecology and Environmental Management (CIEEM) Environmental Impact Assessment (EIA) Guidance (2018) which assesses the impacts of the proposal on ecological receptors taking in to consideration extent, duration, reversibility, timing, frequency and certainty.

Mitigation and enhancement is designed to reduce the level of impact upon receptors and provide ecological enhancement in order to meet current legislation and planning policy. The information below has therefore been considered during assessment.

- Criteria that have been developed to assist in the identification of statutory Sites of Special Scientific Interest (SSSIs) (JNCC 2013)
- Habitats and species of Principal Importance included under Section 41 (England) and Section 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006
- The legal status of habitats and species according to The Conservation of Habitats and Species Regulations 2017 (as amended)
- CIEEM Guidelines (2018) for assessing the value of ecological receptors within a defined geographical context using the following categories: international (*i.e.* Europe); UK and national (England); regional; county; Unitary Authority; local or parish; and zone of influence. Receptors are identified as ‘important’ at these levels, or as ‘not important’
- Species protected by European directives
- Species protected by the *Wildlife and Countryside Act 1981* (as amended)

- Other species listed as scarce or notable in literature issued by conservation organisations or learned societies *e.g.* vascular plant species listed in Stewart *et al.* (1994) and Red and Amber List Birds of Conservation Concern (Eaton *et al.* 2015)
- Local Wildlife Site selection criteria
- National Policy Planning Framework (NPPF), 2019
- BS42020:2013 – Biodiversity Code of practice for planning and development
- Protected species handbooks and best practice guidelines
- The Powys Local Biodiversity Action Plan (BAP), which identifies and prioritises local habitats and species of conservation importance. These habitats and species are stated as
  - Habitats: Upland oak woodland, Lowland woodpasture and parkland, Wet woodlands, Coniferous woodland, Scrub and ffridd, Linear habitats (hedges and verges), Rivers and stream, Mesotrophic waters, Lowland raised bog, Rhos pastures, Lowland meadows, Lowland dry acid grassland, Upland calcareous grassland, Upland and lowland heath, Traditional orchards and Farmland and Gardens.
  - Species: Alien Plant species, Allis Shad (*Alosa alosa*) & Twaite Shad (*Alosa fallax*), Brown Hare (*Lepus europaeus*), Brown Trout (*Salmo trutta*), Climbing Corydalis Weevil (*Procas granulicollis*), Curlew (*Numenius arquata*), European Otter (*Lutra lutra*), Fairy Shrimp (*Chirocephalus diaphanous*), Floating Water Plantain (*Luronium natans*), Globeflower (*Trollius europaeus*), Great Crested Newt, Hazel Dormouse, High Brown Fritillary (*Fabriciana adippe*), Nightjar (*Caprimulgus europaeus*), Pearl-bordered Fritillary (*Boloria euphrosyne*), Pillwort (*Pilularia globulifera*), Pipistrelle Bat (*Pipistrellus pipistrellus* & *P. pygmaeus*), Red Kite, Red Northern Wood Ant (*Formica lugubris*), Red Squirrel (*Sciurus vulgaris*), River Jelly Lichen (*Collema dichotomum*), River Lamprey (*Lampetra fluviatilis*), Slender Green Feather Moss (*Hamatocaulis vernicosus*), Tree Sparrow (*Passer montanus*), Water Vole, Waxcap Grasslands, White-clawed Crayfish (*Austropotamobius pallipes*) and Wood Bitter Vetch (*Vicia orobus*).



### **3 RESULTS**

#### **3.1 Desk Study**

##### **3.1.1 Designated Sites**

There are no statutory designated sites within 2 km of the proposed development site.

#### **3.2 Ecological Surveys**

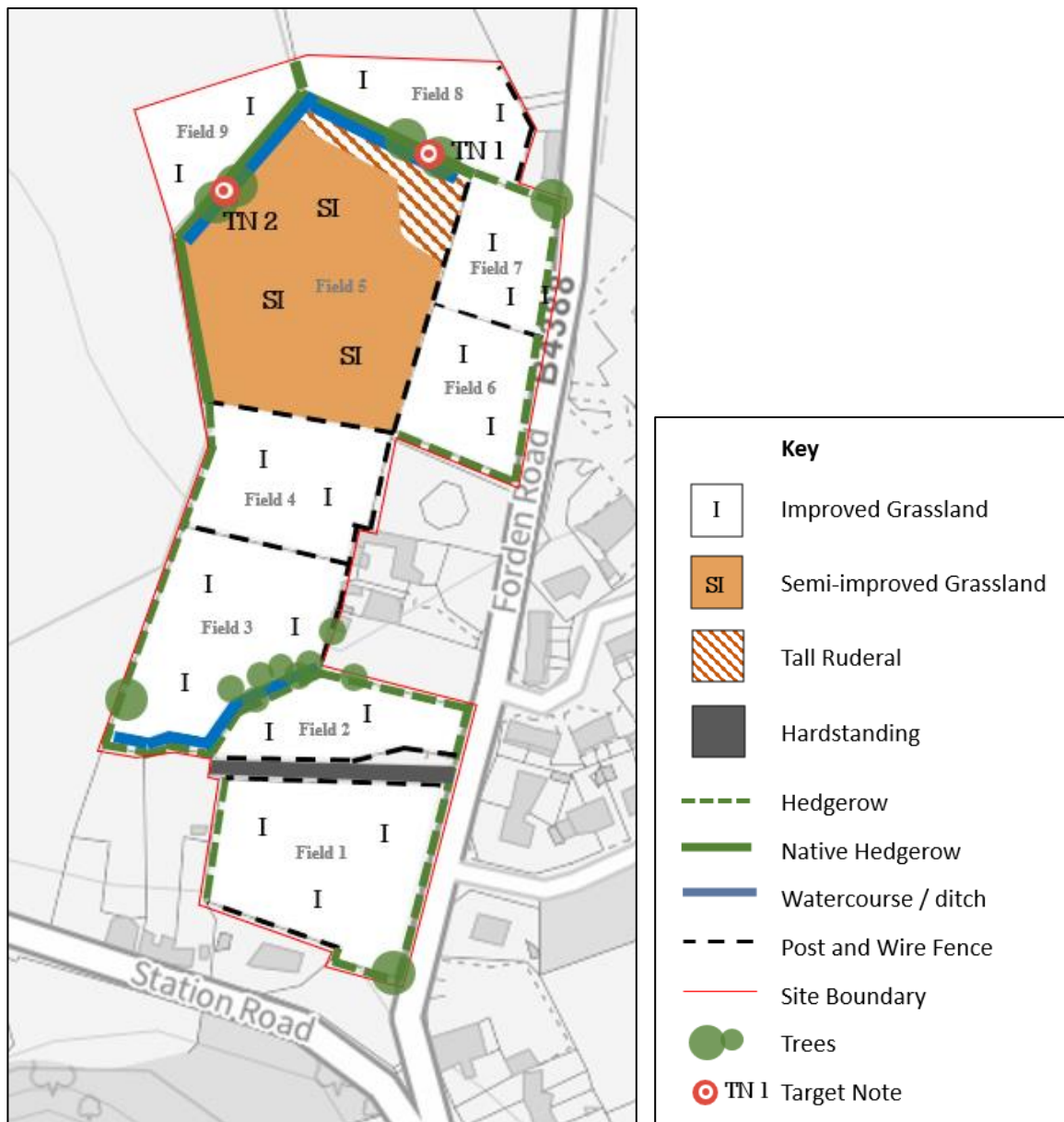
Phase 1 habitat types recorded within and immediately adjacent to the proposed development sites are listed below and shown in *Figure 4*.

- Improved grassland
- Semi-improved grassland
- Tall ruderals
- Hedgerow and trees
- Watercourse
- Hardstanding

The site or immediately adjacent areas contain habitat suitable for the protected species listed below.

- Badger
- Bats
- Dormouse
- Nesting birds
- Great Crested Newt
- Reptiles

Figure 4. Phase 1 Map of proposed development site



### 3.3 Phase 1 Habitat Survey

#### 3.3.1 Improved grassland

The proposed development site is dominated by eight short-sward improved grassland fields (Fields 1-4, 6-9, Figure 4 and Plate 1 to 3 ), which are grazed by horses and contain common grass species including Perennial Ryegrass (*Lolium perenne*), Red Fescue (*Festuca rubra*), Creeping Bent (*Agrostis stolonifera*), Annual Meadow Grass (*Poa annua*), False Oatgrass (*Arrhenatherum elatius*), Yorkshire Fog (*Holcus lanatus*) and Crested Dog’s-tail (*Cynosurus cristatus*). Forb species recorded within the grassland include Creeping Buttercup (*Ranunculus repens*), White Clover (*Trifolium repens*), Greater Plantain (*Plantago major*), Ribwort Plantain (*Plantago lanceolata*), Daisy (*Bellis perennis*), Common Dandelion spp (*Taraxacum officinale* agg.), Common Nettle (*Urtica dioica*), Yarrow (*Achillea*



*millefolium*), Spear Thistle (*Cirsium vulgare*), Broad-leaved Dock (*Rumex obtusifolius*), Common Chickweed (*Stellaria media*), Prickly Sow-thistle (*Sonchus palustris*), Ground Ivy (*Glechoma hederacea*), Cleavers (*Galium aparine*) and Selfheal (*Prunella vulgaris*).

*Plate 1. Improved grassland within Field 3 (looking west from south-eastern corner)*



*Plate 2. Improved grassland within Field 3 and adjacent Field 4 (looking north-east from south-east edge of Field 3)*



*Plate 3. Improved grassland within Field 7 (looking south-east from western boundary)*



### 3.3.2 Semi-improved grassland

Field 5 (*Figure 4 and Plate 4*) was not as well-grazed as other fields at the time of survey and consists of species-poor semi-improved grassland including a mix of grasses such as Perennial Ryegrass, Foxtail (*Alopecurus pratensis*), Crested Dog's Tail, Common Bent Grass (*Agrostis capillaris*), Yorkshire Fog, Red Fescue, Cocksfoot (*Dactylis glomerata*) and Annual Meadow Grass. Forb species recorded within the grassland include Red Clover (*Trifolium pratense*), White Clover, Creeping Buttercup, Meadow Buttercup (*Ranunculus acris*), Silverweed (*Potentilla anserina*), Sorrel (*Rumex acetosa*), Common Chickweed, Spear-thistle, Dandelion spp, Yarrow, Ribwort Plantain and Shepherd's Purse (*Capsella bursa-pastoris*).

*Plate 4. Semi-improved grassland in Field 5 (looking south from north-eastern end)*



### 3.3.3 Tall ruderals

An area of ungrazed tall ruderal vegetation is located in the north-eastern corner of Field 5 (*Figure 4 and Plate 5*). Species found here include Spear Thistle, Broad-Leaved Dock, Sorrel, Common Nettle, Creeping Thistle (*Cirsium arvense*) and Cocksfoot.

*Plate 5. Tall ruderals in Field 5 (looking north)*



### 3.3.4 Hedgerow and trees

A native, species-rich intact hedgerow forms the northern and western boundaries of Field 5 and is associated with the parallel field drain (*Figure 4 and plate 6*). Species within this hedgerow include Elder (*Sambucus nigra*), Hawthorn (*Crataegus monogyna*), Grey Willow (*Salix cinerea* agg), Bramble (*Rubus fruticosus* agg), Hedge Bindweed (*Calystegia sepium*), Clematis (*Clematis vitalba*), Common Nettle, Creeping Thistle, Red Campion (*Silene dioica*), Brooklime (*Veronica beccabunga*), Water Parsnip (*Berula erecta*) and Tall Fescue (*Festuca gigantea*). Two mature Crack Willow (*Salix fragilis*) trees are located in the northern hedge (TN1, *Figure 4 and plate 7 & 8*). These are decaying, with large cracks and splits. A Field Maple (*Acer campestre*) and a partly fallen Crack Willow (TN2, *Figure 4 and plate 9*) form part of the north-western hedge boundary.



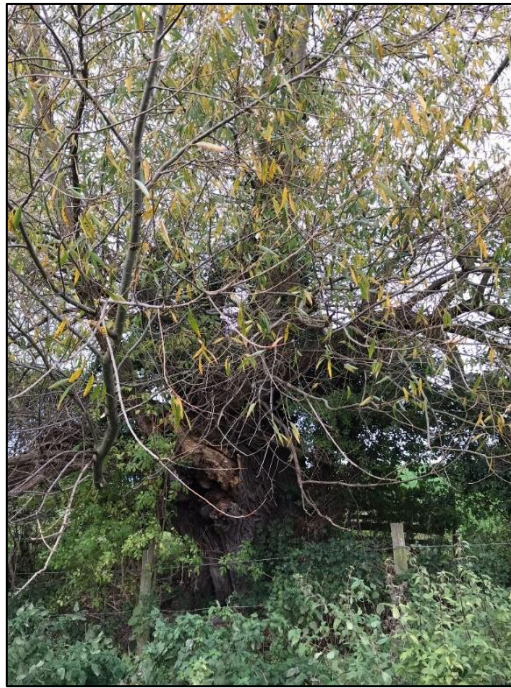
*Plate 6. Native species-rich hedgerow (looking north from Field 5)*



*Plate 7. Crack Willow 1 within northern hedgerow (TN 1, Figure 4)*



*Plate 8. Crack Willow 2 within northern hedgerow (TN 1, Figure 4)*



*Plate 9. Field Maple within north-western hedgerow (TN 2, Figure 4)*



Managed intact hedgerows form parts of the boundaries around Fields 2, 6 and 7 with a gappy hedgerow along the south-eastern boundary of Field 1 (*Figure 4 and Plate 10*). These hedgerows all have a similar species assemblage that includes Hawthorn, Holly, Hazel (*Corylus avellana*), Blackthorn (*Prunus spinosa*), Dog-Rose (*Rosa canina* agg), Bramble and Ivy (*Hedera helix*). Ground flora includes Yorkshire Fog, False Oat Grass, Cleavers, Broad-Leaved Dock and Yarrow. The western boundary hedgerows of Fields 3 and 4 has a similar species assemblage to the managed hedgerow, but is outgrown (*Plate 11*) and a mature Hazel is in south-western corner of Field 3 (*Plate 12*).



*Plate 10. Managed hedgerow on southern boundary of Field 3 and mature hazel tree*



*Plate 11. Outgrown hedgerow on western edge of Field 3 (looking west)*



*Plate 12. Hazel tree at south-western corner of Field 3*



### 3.3.5 Watercourse

A small field drain is present along the south-eastern boundary of Field 3 (*Figure 4 and Plate 13*) and enters a culvert to flow north-east under the field. At the time of survey, the drain was approximately 0.5m wide, less than 0.1m deep and fast flowing with no aquatic species within the watercourse evident. Vegetation along the steep banks include Ash (*Fraxinus excelsior*), Hazel, Holly, Grey Willow, Bramble, Hogweed (*Heracleum sphondylium*), Herb Robert (*Geranium robertianum*), Field Horsetail (*Equisetum arvense*), Creeping Thistle, Cow Parsley (*Anthriscus sylvestris*), Common Sorrel, Rose-Bay Willow Herb (*Chamerion angustifolium*), Common Nettle, Broad-leaved Dock and Water Mint (*Mentha aquatica*).

A shallow field drain is also present along the north-western and north-eastern boundaries of Field 5, mostly inaccessible and contained within the boundary hedgerow (*Plate 14*). Both field drains join the River Camlad approximately 1.8 km north of the site.

*Plate 13. Drainage ditch on south-eastern boundary of Field 3*



*Plate 14. Drainage ditch on north-western boundary of Field 5*





### 3.3.6 Hardstanding

A hardstanding access track links the B4388 to a property beyond the western edge of the development site. This has no botanical value.

## 3.4 Protected Fauna

### 3.4.1 Badger

No evidence of Badger was recorded within or immediately adjacent to the boundaries of the proposed development site.

The improved grassland and boundary hedgerows are suitable habitats for setts to be located in and these areas also provide suitable habitat for foraging and commuting Badger.

### 3.4.2 Bats

There are records of Brown Long-eared Bat (*Plecotus auritus*) and Greater Horseshoe Bat (*Rhinolophus ferrumequinum*) from approximately 1.5 km south-east of site (*T. Stretton, 1998; NBN*) and many records of Lesser Horseshoe Bat (*R. hipposideros*) from two sites approximately 1 km south-east and 1.5 km east-south-east of site between 1984 and 2011 (*NBN*).

The two mature Crack Willow trees in the northern site boundary hedgerow and the Field Maple in the north-western hedge boundary of Field 5 have splits in the trunk and branches which appear to provide suitable features for roosting bats.

The field boundary hedgerows provide suitable habitat for foraging and commuting bats however the grassland that dominates the site is unlikely to be of importance for foraging bats.

### 3.4.3 Dormouse

There are no apparent records of Dormouse within 2 km of the proposed development site.

The northern and north-western boundary hedgerow of Field 5 provide suitable cover and foodplants for Dormouse however the hedgerow is poorly connected to any extensive optimal habitat. The remaining boundary hedgerows contain limited foodplants and cover for Dormouse and are unconnected to any further hedgerows or woodland.

### 3.4.4 Birds

Suitable breeding bird habitat within the application site is limited to the boundary hedgerows and trees.

Due to the close proximity to hedgerows, trees and buildings and short sward of the grassland it is very unlikely that ground nesting birds will occur within the grassland.



There is no suitable habitat on, or adjacent to site for nesting Barn Owl however the field margins, provide suitable habitat for hunting Barn Owl.

### 3.4.5 Great Crested Newt

The only records of Great Crested Newt within 2 km of the proposed development site are associated with a pond approximately 190m east of the site's eastern boundary. A small population (maximum of 10) was found in 2010 during survey in relation to a proposed development (P/2010/0028, Marches Ecology (2010)) with only two found during further surveys in 2015 (P/2016/0680, Marches Ecology (2016a)) and a continued deterioration of the pond observed in 2021 (20/2118/FUL, Marches Ecology 2021). The housing development immediately to the east of the pond has been completed and construction works following a licensed method statement are ongoing immediately to the west of the pond (20/2118/FUL). This pond appears to be isolated with no other ponds suitable for Great Crested Newt within 500m of it and no other ponds within 500m of the Verlon Farm development site. A small pond shown on mapping to be approximately 140m south-west of the proposed development site was found to just be a natural spring for the watercourse that flows along the western site boundary and unsuitable for breeding Great Crested Newt.

Suitable Great Crested Newt terrestrial habitat on and adjacent to site is mainly limited to the hedgerow bases, which opportunities for foraging, commuting and hibernating. The short sward improved grassland, tall ruderal and semi-improved grassland provide no suitable refuges for hibernating Great Crested Newt but could be crossed during dispersal and the tall ruderal and rougher parts of the semi-improved grassland suitable for foraging.

### 3.4.6 Reptiles

There are no apparent records of common reptile species within 2 km of the proposed development site.

The short sward improved grassland is of poor suitability for foraging or hibernating reptiles due to a lack of dense cover, although it could be crossed during dispersal. Suitable habitat is limited to the boundary hedgerows, tall ruderal and semi-improved grassland, which provide suitable cover and opportunities for foraging, hibernating and/or dispersing reptiles.

### 3.4.7 Other species

#### *Hedgehog*

Hedgehog (*Erinaceus europaeus*) are known to occur in the area (K. Littleford, 2021; *NBN*) and the field boundary hedgerows offer suitable foraging, nesting and commuting routes for Hedgehogs and the grassland is suitable for foraging.

## 4 EVALUATION

### 4.1 Summary of Proposals

The proposals involve the construction of 54 residential dwellings, garages, associated gardens, access road and drainage pond (Figure 5). The majority of the existing boundary hedgerows are to be retained, although sections of the north-western and northern hedgerows will be impacted with the potential for the associated watercourse to also be affected.

Figure 5. Proposed development plan



### 4.2 Habitats

#### 4.2.1 General

The Powys BAP lists 17 Habitat Action Plans, which includes hedgerows. The Powys BAP also lists 28 Species Action Plans including Great Crested Newt, Hazel Dormouse and Pipistrelle Bat.

These habitats and species could be directly or indirectly affected by the proposed development and appropriate project design and mitigation will need to be adhered to ensure there will be no negative impacts on them as a result of the proposals. Ecological enhancements are also recommended to ensure the proposals result in a positive ecological gain which is in accordance with the National Planning Policy Framework.

In order to protect habitats and maintain and increase biodiversity of the site the following mitigation measures and safe working methods will need to be incorporated into the proposals.

## 4.2.2 Mitigation

### *Grassland*

The construction works will mainly affect ecologically poor improved and species poor semi-improved grassland as well as a small area of tall ruderals. No specific habitat mitigation is required to negate the loss of these habitats but it is recommended that where possible undeveloped areas around the margins of site are seeded during the autumn with a wildflower seed mix. This seed mix should contain plant species such as Common Knapweed, Ox-eye Daisy (*Leucanthemum vulgare*), Meadow Buttercup, Scabious sp., Bird's-foot Trefoil (*Lotus sp.*) and Yarrow. At the end of each growing season this area should be cut and the cuttings removed to prevent excessive nutrient build up in the soil.

### *Hedgerows and trees*

The majority of the existing mature hedgerows are to be maintained as part of the development site boundary. However, sections of hedgerow and some trees are likely to be removed as part of improved access and visibility splay and creation of the drainage area at the northern end of site.

Any hedgerow sections to be removed should be replaced and/or existing site boundaries and hedgerows enhanced with additional tree planting. Planted trees will need to comprise a mix of locally occurring native species such as Oak, Hawthorn, Blackthorn, Holly, Crab Apple, Field Maple, Wild Cherry, Damson and Alder (*Alnus glutinosa*).

All new and planted-up hedgerows and trees will be monitored for a minimum 5 years to check establishment and if die-back or failure to establish occurs then re-planting will be required. Re-planting will replace the original species and be of a similar size. Once established (probably when first laid) the tree guards should be removed, if they have not fully degraded.

The proposed areas of groundworks will need to be confined to areas that will not impact on the root systems of the existing and retained hedgerow and boundary trees. An appropriate buffer (as detailed in BS5837:2012) will need to be established.

### *Watercourse*

Measures are to be put in place to ensure there are no significant negative impacts on the field drains to the south-east and north of site, which flow towards the River Camlad.

The proposed drainage and dirty water treatment methods will need to ensure that there are no impacts on the hydrology and ecology of the field drains and that no dirty water will enter the watercourse and subsequently discharge into the River Camlad. Water treatment and discharge methods will be fully detailed in the planning application but should include the following:

- If needed, retained sections of watercourse will be fenced to prevent any surface water run-off into the field drain during construction;

- Spill kits will be stored within the site compound during and post construction and all spills will be cleaned up accordingly;
- All chemical substances and hazardous materials will be stored in accordance EA guidelines with all diesel fuel and other lubricants will be stored in appropriate containers within double bunded storage areas;
- Any washing of concreting vehicles will be done well away from any watercourses and/or drainage systems; and
- Any re-fuelling and re-lubrication will only be completed in an approved area in which a spill kit is available;
- Any incidents / accidents would need to be immediately reported to the Environment Agency.

A new drainage area and drainage pond will be created at the northern end of site. The waterbody should self-seed as it is used as a drainage feature so will have a slight flow of water in and out. Wildflower seeding around the pond to improve habitat structure surrounding the pond will be included in the proposals. Wildflower seeds should be native and of local provenance and a seed mix such as the N8 Water's Edge Meadow Mix from [www.naturescape.co.uk](http://www.naturescape.co.uk) would be appropriate. The seeded area around the pond should be mown, and cuttings removed off-site early in the season (March to early April), and again between August and September. To maintain floral diversity mowing between April and July should be avoided.

The proposed drainage methods and mitigation measures will ensure there will no significant negative impacts on the field drain and consequently no impacts further downstream on the River Camlad and the habitats and species they support.

## **4.3 Protected Fauna**

### **4.3.1 Badger**

No setts or evidence of foraging or commuting Badger was recorded on or adjacent to the proposed development site.

The loss of the improved and semi-improved grassland is unlikely to have a significant negative impact on foraging Badgers. The planting up of native fruit-bearing trees around the site and recreation of grassland habitat within the drainage area will mitigate this minor loss of foraging habitat.

Although significant negative impacts on Badgers are not predicted it is recommended mitigation measures are put in place to ensure Badgers do not become trapped within any excavation works associated with construction works. Excavations should either not be left uncovered overnight or ways of escape for Badgers provided (*e.g.* wooden planks or graded earth banks).

### 4.3.2 Bats

The mature Crack Willow trees located along the boundary of Field 5 and Mature Field Maple in the north-western field 5 boundary have features suitable for roosting bats and these trees will be retained and protected during, and post construction. In addition, the boundary hedgerows and trees provide suitable habitat for commuting and foraging bats.

If trees suitable for roosting bats are to be removed (potentially for safety reasons) then a tree climbing and/or activity surveys will need to be completed to determine the presence/absence of roosting bats prior to felling. If roosting bats are confirmed as present, then a mitigation licence will need to be obtained to allow the tree/s to be felled lawfully.

Long term bat roosting provision to be incorporated around site and include a minimum of 10 bat tubes incorporated into unlit, south facing elevations of new dwellings, ideally with open access to boundary hedgerows. Tubes suitable for use by crevice dwelling species and installed at least 3m above ground level. These tubes do not require any maintenance as the droppings fall out of the entrance and are designed to be set into an external wall or incorporated into the masonry and then rendered flush with the surface so that only the entrance is visible. A minimum of two larger bat boxes (such as Greenwood Hollow Box) suitable for cavity dwelling species to be erected on retained trees. All new roosting features will be maintained for the lifetime of the development.

A lighting plan showing the location and specification for any proposed lights on the site will be produced. The lighting plan will reflect the Bat Conservation Trust Bats and Lighting in the UK guidance (2018) and will include directing lighting away from the retained hedgerows, trees and suitable roosting features around the site and the use of downlighting to ensure that suitable roosting features and foraging and commuting habitats remain unlit.

### 4.3.3 Dormouse

Due to the lack of records in the area, limited connectivity to extensive suitable habitat and suitability of the habitats affected by the works, it is considered that the presence of Dormouse on site is very unlikely and there will be no negative impact on this species.

### 4.3.4 Nesting Birds

The boundary trees and hedgerows are all suitable habitats for nesting birds. Given the habitat types present on site it is considered extremely unlikely that any *Schedule 1* breeding birds would be present within the proposed development footprint.

Habitat creation, enhancement and management, such as the planting of new trees, will have a positive impact on nesting birds at the site, providing further cover and food for a variety of farmland and garden species.

The following nesting features will be erected on newly constructed dwellings (*Figure 8*):

- Two Vivara Pro Woodstone House Sparrow Nest Boxes (or equivalent) suitable for House Sparrow (*Passer domesticus*);
- 10 Swift boxes to include built-in Swift Nest Bricks (e.g. S-brick from [www.actionforswifts.com](http://www.actionforswifts.com), or equivalent) and/or Vivara Pro Woodstone Swift Nest Boxes (or equivalent); and
- Two single hole fronted nest boxes (e.g. Woodstone Seville Nest Box 32mm, or equivalent) and two open-fronted nest boxes erected on retained trees.

All House Sparrow and Swift boxes are to be incorporated into the dwellings as and when they are built during the construction phase of the development.

All bird boxes will be retained and maintained for the lifetime of the development.

#### 4.3.5 Great Crested Newt

There are no ponds impacted by the proposals but there is a single pond within 250m of site, which is known to support a small population of Great Crested Newt.

The improved grassland affected by the proposals is unsuitable for hibernating and foraging Great Crested Newt but could occasionally be crossed during dispersal. The area of ungrazed tall ruderals and boundary hedgerows do provide some opportunities for foraging, hibernating and dispersing, although connectivity to the known Great Crested Newt breeding pond and any other ponds is poor with residential areas and a main road between site and the breeding pond.

Great Crested Newt are unlikely to regularly occur within the improved grassland areas but presence is possible within the area of tall ruderals and hedgerow / vegetation adjacent to the field drain at the northern end of site. There is also a risk of Great Crested Newts entering the construction area during times of dispersal.

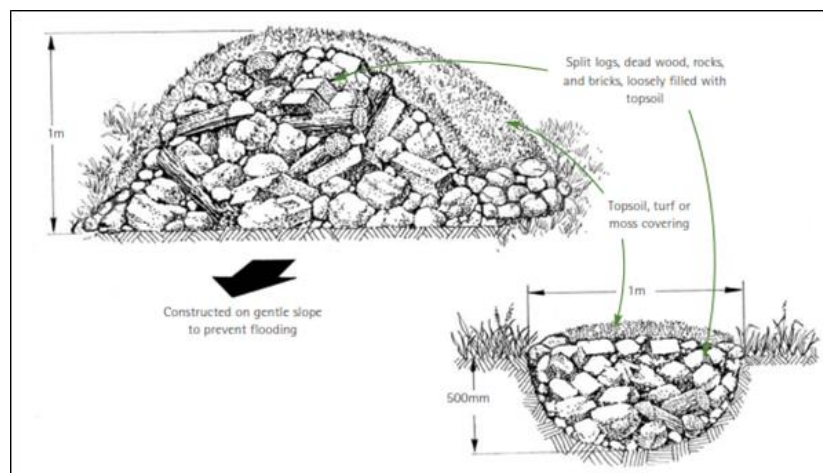
As there is a risk of Great Crested Newt being impacted by the proposals, a mitigation licence will need to be obtained from Natural Resources Wales (NRW) prior to the start of works. Full safe working methods and mitigation will be confirmed at the time of licensing but is likely to include the following:

- Installation of one-way fencing around the entire site boundary and enclosing the area of tall ruderals and any sections of hedgerow to be removed.
- A newt grid to be installed at the site entrance to prevent newts accessing the construction area but allowing free movement of vehicles.
- Pitfall traps and refugia to be installed inside the fenceline within the enclosed area of tall ruderals and any sections of hedgerow with a minimum 30 day translocation undertaken in this area.
- Translocation to involve daily morning checks of traps and refugia with any newts found moved to a suitable receptor site. If possible the pond and northern parts of the drainage area can be created prior to the start of translocation and newts can be moved to hibernacula and

refuges (*Figure 6*) in this area and protected from further works. This area will also have some connectivity to the known breeding pond to the east of site (via hedgerows) and also suitable terrestrial habitat to the north.

- After five consecutive nights of finding no newts at the end of the 30 day translocation period, internal fences (apart from section protecting receptor site) will be removed with site boundary fence retained until construction works are completed to prevent newts accessing site during construction period.
- The newly created pond will be monitored on at least the first year after creation with monitoring to include presence/absence survey for Great Crested Newt and a habitat suitability assessment. If necessary additional habitat management / enhancement of the pond and surrounding receptor area will be undertaken.

*Figure 6. Example of hibernacula*



The creation of the drainage pond, hibernacula and recommended re-seeding of areas around the boundaries of the development site will ultimately improve the suitability of the site and adjacent habitats for Great Crested Newts and other amphibian species.

#### 4.3.6 Reptiles

The short sward improved grassland which will be affected by the proposals is of poor suitability for foraging or hibernating reptiles due to a lack of dense cover, although it could be crossed during dispersal. The semi-improved grassland, tall ruderals and boundary hedgerows do provide more suitable cover for foraging, hibernating and/or dispersing reptiles.

The presence of reptiles within the proposed works areas is considered unlikely however as some suitable habitat is present within the site and around the boundaries of site it is recommended safe working methods are put in place to ensure no reptiles are harmed. These measures will mainly be covered by the proposed Great Crested Newt mitigation measures but will include habitat modification (e.g. cutting and maintaining vegetation to just above ground level prior to works) to discourage reptiles from occurring. During construction, any storage of piles of materials and excavated earth on



the site should be kept to a minimum and away from the boundaries to deter reptiles from using them for temporary cover.

The creation of the drainage pond, hibernacula and recommended re-seeding of areas around the boundaries of the development site will ultimately improve the suitability of the site and adjacent habitats for reptiles.

#### **4.3.7 Other species**

##### *European Hedgehog*

In order to enhance the site for European Hedgehog a minimum of two Hedgehog houses, such as Vivara Pro Woodstone Hedgehog House, will be positioned along the north-eastern and western boundary hedgerows. Each fence line in the gardens of the proposed properties should contain one gravel board with a gap measuring 13 cm by 13cm to allow Hedgehogs to move freely between gardens and across site, creating a Hedgehog highway.



## 5 LEGAL PROTECTION

This section briefly describes the legal protection afforded to the protected species referred to in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

### 5.1 Badger

Badger is protected in Britain under the *Protection of Badgers Act 1992* and *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). The legislation affords protection to Badgers and Badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

### 5.2 Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on *Schedule 2* of the *Conservation of Habitats and Species Regulations 2017* (as amended). This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats in such a way as to be likely to (a) impair their ability to: (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or b), to affect significantly the local distribution or abundance of the species to which they belong; and
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.

Where it is necessary to carry out an action that could result in an offence under the regulations protecting bats and their roosts it is possible to apply for Mitigation Licence from Natural England

(NE) or Natural Resources Wales (NRW). Three tests must be satisfied before this licence (to permit otherwise prohibited acts) can be issued:

- Regulation 55(1)(a) states that licences may be granted to “preserve public health or public safety or 55(6)(a) other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.”
- Regulation 55(2) and 55(7)(a) states that a licence may not be granted unless “there is no satisfactory alternative”.
- Regulation 55(7)(b) states that a licence, in respect of imperative reasons of overring public interest (IROPI), cannot be issued unless the action proposed “will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

### 5.3 Dormouse

The Dormouse is on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and receives full protection under Section 9. This species is also listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (SI 2010/490) which gives them full protection under Regulation 41. Protection was extended by the Countryside and Rights of Way Act 2000 (the CRoW Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

Dormouse is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under Section 74 of the CRoW Act.

### 5.4 Nesting Birds

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRoW Act.

The legislation makes it an offence to intentionally:

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

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRow Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

## 5.5 Great Crested Newt

Great Crested Newt is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. These species are also listed as European Protected Species on *Schedule 2* of the *Conservation of Habitats and Species Regulations 2017* (as amended). Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The Great Crested Newt is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

## 5.6 Common Reptile Species

Common Lizard, Grass Snake, Slow-worm and Adder are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRow Act.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.