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PRELIMINARY ECOLOGICAL APPRAISAL AND PRELIMINARY ROOST ASSESSMENT REPORT

THE VICARAGE, CYFARTHA, MERTHYR TYDFIL

PAUL OVERTON ARCHITECTS

DOCUMENT REF: WWE20030 PEA AND PRA REV B | 09/03/2020

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Client:	Paul Overton Architects
Site/Job:	The Vicarage, Cyfartha, Merthyr Tydfil
Report title:	Preliminary Ecological Appraisal and Preliminary Roost Assessment Report
Report reference:	WWE20030 PEA and PRA Rev B

Grid Reference:	SO0427806365
Survey date(s):	11 th February 2020
Surveyed by:	Julie Player
Architect/Agent:	Paul Overton Architects
Planning reference:	Unknown

VERSIONING AND QUALITY ASSURANCE

Rev	Status	Date	Author(s)	Reviewed by	Approved by
A	Draft	27/02/2020	Julie Player MCIEEM Senior Ecologist	Alex Wilson MCIEEM Principal Ecologist	Alex Wilson MCIEEM Principal Ecologist
B	Final	09/03/2020	Julie Player MCIEEM Senior Ecologist	Alex Wilson MCIEEM Principal Ecologist	Alex Wilson MCIEEM Principal Ecologist

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The evidence which we have prepared and provided is true and has been prepared and provided in accordance with the guidance of The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

SUMMARY

Purpose	- Wildwood Ecology was commissioned by Paul Overton Architects (the client) to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of The Vicarage, Cyfartha, Merthyr Tydfil. - The site is the subject of a planning application for an extension and renovation of the existing residential dwelling onsite.
Work undertaken	- A PEA was undertaken consisting of a desk study and field survey undertaken in February 2020 following the Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal (2013) guidelines and standard Phase 1 Habitat Survey protocol (JNCC, 2010). - A PRA was undertaken consisting of a desk study and field survey undertaken in DATE YEAR following best practice in line with the Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edn (Collins 2016).
Key issues	- The development may result in impacts on wildlife and habitats affecting the following protected species: - Bats - Nesting Birds
Recommendations	- The residential dwelling offered moderate bat roost potential. Two bat activity surveys will be required and undertaken by two surveyors to ensure sufficient coverage around the house. The surveys can be undertaken between May-September. - Due to the potential for foraging bats within the woodland at the back of the property I would recommend that no additional lighting is installed as part of the proposed works and that the woodland remains as a dark corridor for bats and other nocturnal animals. - If habitats suitable for nesting birds are to be removed (Scrub/introduced shrub), then any vegetation clearance will take place outside of the bird nesting season. In the event that clearance work has to be undertaken during the nesting season (generally from 1st March until 31st August, although birds are known to nest outside of these dates in suitable conditions), a breeding bird survey will be required and must be carried out by a suitably qualified person. Any active nests identified should be protected until the young have fledged.
Conclusions	- The full ecological impacts of the proposed development cannot be fully assessed following the PRA and PEA survey alone and further survey work is required. - This ecological report will remain valid for a period of 18 months from the date of the last survey – i.e. until August 2021.

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1 INTRODUCTION

- 1.1 Wildwood Ecology was commissioned by Paul Overton Architects (the client) to undertake a Preliminary Ecological Appraisal (PEA) of The Vicarage, Cyfartha, Merthyr Tydfil (the site) centred at grid reference SO0427806365.

Site description

- 1.2 The aerial image of the site (Figure 1) shows the site to consist of a residential dwelling an associated driveway, a garage is located to the north of the property (not visible on the aerial image as its hidden by the tree canopy) broadleaved woodland to the north, scrub and grassland habitat within the garden.



Figure 1 – Aerial image of the site (red line shows the site boundary). Image used under licence (©2020 Google). Imagery date 25/06/2018.

- 1.3 The habitat located within the wider site (Figure 2) predominately consist of shopping centres and industrial estates to the north and north west, residential housing estates to the south, east and west, the River Taff to the east and large broadleaved woodland blocks south west of the site, this woodland however is on the far side of the A470.



Figure 2 - Aerial image of the wider site (red line shows the site boundary). Image used under licence (©2020 Google). Imagery date 25/06/2018.

Proposed development

- 1.4 The site is the subject of a planning application for an extension and renovation of the existing residential dwelling onsite.

Purpose of this report

- 1.5 The purpose of this report is to provide sufficient information for the local planning authority to fully assess the potential ecological impacts of the proposed development, or to identify what further information is required before a full assessment can be made.
- 1.6 The results of the PEA and PRA has been used to inform whether further surveys are required, or to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed development.

2 METHODOLOGY

Desk study

- 2.1 A biodiversity desk study was undertaken in relation to the site in February 2020. The sources consulted and the type of information obtained are summarised in Table 1.

Table 1 – Sources of biodiversity and ecological records.

Source	Information requested (search buffer from site centre/boundary)
South East Wales Biodiversity Records Centre (SEWBReC)	- Protected and priority species (2km) - Sites of local importance/designation (1km)
Multi-Agency Geographic Information for the Countryside (MAGIC) ¹	- International statutory designations (5km) - National statutory designations (2km)

- 2.2 The search buffers are considered to be sufficient to cover the potential zone of influence (Zol²) of the proposed development.
- 2.3 The impact of the proposed development on the biological integrity of any nearby designated protected sites has been fully considered.
- 2.4 No previous survey information was available for the site itself.

Field survey

- 2.5 A field survey was undertaken on the 11th February 2020.
- 2.6 All habitats present within the site with the potential to support rare, protected, or otherwise notable species of flora or fauna (together with any direct signs) were noted.
- 2.7 In the context of this report, rare, protected, or otherwise notable species of flora or fauna were those considered to meet any of the following criteria:
- Species protected by UK or European legislation (see Appendix V);
 - UK Post 2010 UK Biodiversity Framework priority species or Local Biodiversity Action Plan (LBAP) species;
 - Nationally rare or nationally scarce species;
 - Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red or Amber Lists).
- 2.8 A PEA habitat map was drawn up incorporating target notes used to highlight features of particular ecological interest (see Appendix I).
- 2.9 The Wildlife and Countryside Act (1981) as amended, makes it an offence to release or allow to escape into the wild any animal, plant or micro-organism not ordinarily resident in the UK (as listed in Schedule 9 of the Act). Plant species listed in Schedule 9 were searched for during the survey. Examples include species such as Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*).
- 2.10 An assessment of the onsite buildings and trees was undertaken in accordance with the latest published best practice guidance (Collins, 2016).

¹ <http://magic.defra.gov.uk/MagicMap.aspx>

² Zol definition – ‘the areas/resources that may be affected by the biophysical changes caused by activities associated with a project’ (CIEEM, 2016).

- 2.11 The building was externally and internally inspected for bats and their signs with the aid of high-powered lamps and close-focussing binoculars.
- 2.12 The suitability of the building to accommodate bats was assessed, along with a systematic search for signs of bats (e.g. droppings, moth wings, scratch marks, staining, etc.) or actual bats that were present. Particular attention was paid to the roof areas, with searches for any crevices or gaps in walls, gaps between beams and joists, droppings stuck to the walls, floors or other surfaces, or feeding remains below beams, in addition to a number of other factors and signs indicative of a bat roost.
- 2.13 In addition, the building and trees were classified according to their suitability for bats, based on the presence of features within the structure and / or landscape (see Table 2).

Table 2 - Summary of guidelines for assessing the potential suitability of proposed development sites for bats (from Collins 2016).

Suitability	Description of building, tree, or structure	Number of activity survey visits required ³
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, potential roost sites not suitable for larger numbers or regular use (i.e. maternity or hibernation).	One
Moderate	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.	Two
High	A structure or tree with one or more potential roost sites obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.	Three
Confirmed roost	Evidence of bats or use by bats found.	Minimum of two – to characterise the roost

Surveyor information

- 2.14 The PEA and PRA were undertaken by Julie Player. See Table 3 for further information.

Table 3 – Surveyor information.

Surveyor	Licences	Ecological experience
Julie Player B.Sc. (Hons) MCIEEM Senior Ecologist	Bat Dormouse GCN	Holds a first-class honours degree in International Wildlife Biology. Experience in working for ecological consultancies since 2012. Experienced in undertaking bat, dormouse, reptile and great crested newt surveys. Is a licensed bat, dormouse and great crested newt surveyor in England and Wales.

³ To provide confidence that bats are absent from the structure

Limitations and assumptions

- 2.15 The desk study and field survey will not produce a comprehensive list of plants and animals as this will be limited by factors that influence their presence (e.g. activity and dormancy periods). An assessment can however be made of the habitats within the survey area, their nature conservation value and potential to support protected or priority species.
- 2.16 Many species of bat in the UK are crevice dwelling, and bats or signs of bats can be difficult to find within a building. In addition, there may be areas that are inaccessible to the surveyor.
- 2.17 No other limitations were encountered, or assumptions made during either the desk study or the field survey and it is considered that with the access gained and recording undertaken an accurate assessment of the site's ecological value has been made.

3 RESULTS

Desk study

Designated sites (statutory)

3.1 There were no international statutory designations within 5km of the site and two national statutory designations within 2km (see Table 4).

Designated sites (non-statutory)

3.2 There were four local non-statutory designations within 1km of the site (see Table 4).

Table 4 – Summary of designated sites in range of the site.

Site name	Designation	Description / key reason for designation	Distance & direction
Cwm Glo a Glyndyrys	SSSI	Cwm Glo a Glyndyrys is of special interest for its extensive areas of marshy grassland, species-rich neutral grassland and acid grassland, and for the association of these habitats with others including woodland and heath.	430m SW
Maes Cwm Taf and Tip Cefn Coed/Cwm Taf Fields and Cefn Coed Tip	SINC	Linear series of fields between the Afon Taf Fawr and the A470, also containing areas of semi-natural woodland and a re-vegetated limestone slag tip from the former Cyfarthfa Ironworks as well as smaller areas of semi-improved acid grassland, scrub, bracken slopes and dry heathland. The fields are a mosaic of damp and dry neutral grasslands with species-rich areas. The woodlands are variable in character, including areas of wet willow woodland, acid oak woodland and some base-rich ash woodland near the calcareous tip. The thin soils on the tip plateau support a unique type of calcareous grassland.	600m NW
Dwyrain Winchfawr/Winchfawr East	SINC	Semi-upland area of spoil mounds supporting a mosaic of dry heathland and acid grassland, along with marshy grassland and acid flushes in depressions and areas of neutral grassland. The eastern part of the site supports areas of species-rich marshy grassland and wet heath, along with a series of ponds along a small stream and areas of scrub.	690m W
Cyfarthfa Park/ Parc Cyfarthfa	SINC	Part of an area of mainly ornamental parkland within Merthyr Tydfil. The SINC includes semi-natural woodland and several enclosures of neutral grassland in the eastern half of the park. Also includes small areas of plantation woodland and scrub and several woodland ponds.	910m NE
Taf Fechan	SINC	The SINC contains Cwm Taf Fechan SSSI. The limestone geology gives rise to limestone woodlands, species-rich calcareous grasslands, species-rich neutral grasslands and calcareous scrub. Many species of interest have been recorded from the woodlands which are the	1km NW

		designated feature of the SSSI. The neutral and calcareous grasslands of the valley slopes and bottom are typically species-rich. Otter ranges along the Afon Taf Fechan, which also supports a range of native fish species including salmon. Nationally rare and scarce invertebrate and bryophyte species have been recorded from the SSSI.	
Cwm Taf Fechan Woodlands	SSSI	Where the partially wooded valley of the Taf Fechan crosses the north crop Carboniferous Limestone. Mixed deciduous woodlands cover steep slopes and spoil from quarries with one of the few Glamorgan stations for <i>Gymnocarpium robertianum</i> . There are interesting plant communities in flushes around tufa springs and luxuriant growths of bryophytes in the splash zone of the river.	1.3m NW

- 3.3 The semi natural broadleaved woodland located within the northern area of the site is a designated TPO and ancient/ancient semi natural broadleaved woodland.
- 3.4 Christ Church, located immediately west of the site, was opened in 1857 and is a Grade II listed building.
- 3.5 There are no designated sites within 10km that are designated for their bat populations.

Priority and protected species

3.6 Table 5 summarises the priority and protected species records found within the local area within the last 10 years (SEWBrEC ref 0190-726).

Table 5 – Priority and protected species records found in the vicinity of the site within the last 10 years.

Protected & priority		# of records (# species)			Further information
Groups	Species	Onsite	<500m	>500m	
Bats	Common pipistrelle	-	4	58	Closest record: activity recorded 333m NE and a roost recorded 357m S
	Soprano pipistrelle	-	1	31	Closest record: Activity recorded 424m SE
	Unidentified pipistrelle	-	-	54	Closest record: Activity recorded 721m N
	Brown long-eared bat	-	1	5	Closest record: Activity recorded 458m E
	Unidentified Long-eared Species	-	-	1	Closest record: Roost 875m E
	Noctule	-	-	3	Closest record: Foraging/commuting 735m NE
	Serotine	-	-	1	Closest record: Foraging/commuting 1.8km NE
	Lesser Horseshoe bat	-	-	15	Closest record: Activity recorded 1.6km N
	Daubenton's bat	-	-	12	Closest record: Foraging 1km N
	Unidentified <i>Myotis</i>	-	-	22	Closest record: Tree roost 1.3km N
	Natterer's bat	-	-	9	Closest record: Activity 1.3km N
	Unidentified bat	-	1	25	Closest record: Roost 264m SW
	TOTALS	-	7 (3+)	236 (8+)	
Mammals (excluding bats)	European otter	-	7	18	Closest record: Otter spraint 320m NE
	European badger	-	-	4	Closest record: Badger sett 1.5km SW
	West European hedgehog	-	-	18	Closest record: 604m N
	Other mammals	-	-	6 (4)	Species recorded include water vole, polecat, stoat and hare. The closest record is for water vole presence 1.1km SW

Protected & priority		# of records (# species)			Further information
Groups	Species	Onsite	<500m	>500m	
Amphibians	Great crested newt	-	-	47	Closest record: 1.2km S Species recorded include palmate newt, common toad and common frog. The closest record is of palmate newts 787m S
	Other amphibians	-	-	31(3)	
	<i>TOTALS</i>	-	- (-)	78 (4)	
Reptiles	Common Lizard	-	-	1	Closest record: 1.9km N
	Slow Worm	-	-	3	Closest record: 1.3km N
	Grass snake	-	-	2	Closest record: 1.1km SW
	<i>TOTALS</i>	-	-	6 (3)	
Birds	Schedule 1	- (-)	3 (3)	67 (17)	Schedule 1 species: Species recorded include, red kite, redwing, redstart, goldeneye, common crossbill, barn owl, dartford warbler, goshawk, green sandpiper, hen harrier, hobby, kingfisher, osprey peregrine, snow bunting and woodlark. The closest record is for a red kite, red wing and hobby located 264m SW. Species recorded include: Black-headed gull, bullfinch, coal tit, common gull, common sandpiper common scoter, cormorant, cuckoo, dipper, dunnoek, fieldfare, nightjar, short-eared owl, garden warbler, goldcrest, goldeneye, grasshopper warbler, green woodpecker, grey partridge, herring gull, house martin, house sparrow, kestrel, lapwing, lesser black-backed gull, lesser redpoll, lesser spotted woodpecker, linnet long-tailed tit, mallard, marsh tit, meadow pipit, mute swan pied flycatcher, reed bunting, sand martin, shelduck, skylark, snipe, song thrush, spotted flycatcher, starling, swallow, swift, teal, tree pipit, tufted duck, wheateater, whitethroat,
	Non-schedule 1	- (-)	18 (16)	476 (53)	

Protected & priority		# of records (# species)			Further information
Groups	Species	Onsite	<500m	>500m	
					willow tit, willow warbler, wood warbler and woodcock.
Invertebrates	Totals:	- (-)	1 (1)	17 (17)	Invertebrate species: The closest record is of the small phoenix moth recorded 215m N. Other species recorded include banded general, bleak-headed cardinal beetle, brindle beauty, buff ermine, grayling, grass rivulet, knot grass, latticed heath, marsh fritillary (1.2km SW), small heath, small square-spot, wall, white ermine and white letter-hairstreak.
Plants and Ferns	see further info	-	-(-)	12 (6)	The closest record is of bluebells located 788m SW. Other species recorded include charlock, welsh poppy, fritillary, <i>Gymnocarpium robertianum</i> and lesser butterfly-orchid.
Moss and Clubmoss		-	-	2 (2)	Whip fork-moss was recorded 1.9km NW and stag's-horn club moss was found 2.5km S
Fish		-	-	1(1)	The closest record is of Salmon located 1.9km N.

3.7 Additional records for lesser horseshoe, Daubenton's and brown long eared bat (all hibernation at 4km north east of the site) and one lesser horseshoe night roost (760m north east) have been submitted to the LRC by the surveyor, since the records were purchased.

Field survey

Timing and conditions

3.8 Prevailing weather conditions during the field survey are summarised within Table 6.

Table 6 – Summary of weather conditions during the PEA.

Date	Weather conditions			
	Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort scale]	Rain
11/02/2020	9	4	3	Light drizzle

3.9 The distribution and extent of habitats observed within the site is illustrated in the PEA plan (see Appendix I). An accompanying species list (including scientific names) can be found in Appendix IV.

- 3.10 The habitats present onsite are described in detail in Table 7 using the standard Phase 1 survey habitat classification hierarchical alphanumeric reference codes (JNCC, 2010).
- 3.11 Please also refer to Table 7 for a list and description of the onsite target notes. The positions for these target notes are highlighted in the PEA plan in Appendix I.
- 3.12 The site was classified according to the following habitat types: Broadleaved woodland, scattered scrub, introduced shrub, amenity grassland, hardstanding, wall, buildings and fencing.

Table 7 – Habitats and linear features present onsite.

Habitat type / Linear feature	Species present	Other observations
<i>A1.1.1 Semi-natural, broad-leaved woodland</i> Located within the northern section of the site, it has a small area of decking located along the northern boundary and is bordered by wooden fencing and wall. The woodland is a designated TPO Ancient semi-natural broadleaved woodland.	Ash, holly, birch, sycamore, oak, lesser celandine, creeping buttercup, fern, beech and ivy.	- Three trees had low potential to support roosting bats (TN6) under ivy cover. - The woodland is suitable habitat to support hedgehogs, foraging bats and nesting birds.
<i>A2.2 Scattered scrub</i> Scrub is located along the western boundary of the amenity grassland and adjacent to the wall located around the amenity grassland.	Bramble, rose sp, privet, butterfly bush and bamboo	Butterfly bush and bamboo (see TN1 and TN2)
<i>J1.2 Amenity grassland</i> Amenity grassland (high sward height of approx. 5-10cm in places but has been left unmanaged for a while) is located within the south eastern area of the site with steps down into the garden and it is bordered by a low wall.	Yorkshire fog, cock's-foot, annual meadow grass, rosebay willow herb, perennial rye grass, dandelion, daisy and evening primrose.	
<i>J1.4 Introduced shrub</i> Garden/introduced shrubs are located in the north west corner, north eastern corner and western boundary of the site.	Cotoneaster, ash saplings	Cotoneaster (TN3)
<i>J3.6 Buildings</i> The two storey residential house is located within the southern area of the site and a single storey garage is located within the north western area of the site adjacent to the woodland.		- The residential house had moderate suitability to support roosting bats (Building A). - The garage had low potential to support roosting bats (Building B).
<i>J2.5 Wall</i> A low brick wall is located around the southern, eastern and partially around the western boundary of the site.		
<i>J2.4 Fence</i> A wooden fence is located around the eastern, northern and western boundary of the woodland.		
<i>J5 Other Habitat – Hardstanding</i> Hardstanding in the form of a driveway and back garden are located to the southern and eastern aspect of the residential building and towards the north of the property leading to the garage.		

Invasive species

3.13 Stands of bamboo, butterfly bush and cotoneaster were recorded within the survey boundary (TN1, 2 and 3).

Onsite fauna

3.14 The presence of the following species were observed or detected around the site during the survey: Robin and blackbird.

3.15 A description of the buildings/trees inspected during the PRA can be seen in table 8.

Table 8 - Onsite building and tree information

Building / Tree reference	Building type / Section Tree species	Description	Development plans
A	Residential Property	Two storey brick building with white pebble rendering, slate hipped roof structure, wooden frame with no visible roof lining, which appeared to be in good condition. PVC windows.	Renovation and an extension on the eastern aspect of the structure.
B	Garage	Single storey, brick and breeze block garage with mono-pitch roof, plastic corrugated roof.	To remain in situ – no development plans
C	Beech	Ivy covered stem	To remain in situ – no plans
D	Beech	Ivy covered stem	To remain in situ – no plans
E	Beech	Ivy covered stem	To remain in situ – no plans

3.16 The results of the PRA can be seen in Table 9

Table 9 - PRA results

Building / Tree reference	Confirmed use by bats	Confirmed use by birds	Bat signs and internal and external Potential Roost Features (PRFs) & access points
A	N	N	Gaps between soffit box and wall around the northern and eastern aspect of house (TN4)
B	N	N	Mortar missing between the bricks on the western aspect of the garage that may support individual crevice dwelling bats occasionally during the summer months (TN5).
C	N	N	Ivy covered stem that could offer shelter and/or be covering PRF for roosting bats (TN6).
D	N	N	Ivy covered stem that could offer shelter and/or be covering PRF for roosting bats (TN6).
E	N	N	Ivy covered stem that could offer shelter and/or be covering PRF for roosting bats (TN6).

4 INTERPRETATION AND ASSESSMENT

- 4.1 The proposed development will require displacement of some of the onsite habitats (buildings and hardstanding) and disturbance to their associated features, and adjacent habitats. This section concerns an assessment of ecological impacts resulting from the proposed development.
- 4.2 The following interpretation and assessment is provided to ensure full compliance with UK and both local and national planning policy (see Appendix V).

Designated sites

- 4.3 There were both statutory and non-statutory designated sites identified within the vicinity of the site (see Table 4). The closest statutory site was Cwm Glo a Glyndyrys SSSI which is located 430m south west of the site and is designated for its marshy grassland and the closest non-statutory site was Cwm Taf Fields and Cefn Coed Tip SINIC which is located 600m north west and is designated for its habitats and limestone slag tip.
- 4.4 Given the scale of the proposed development, and the lack of likely impacts beyond the site boundary, the nearby designated sites are sufficiently well separated so that no impacts on their designated features are anticipated as a result of the works.

Priority and protected habitats

- 4.5 The following priority habitats (as listed in Section 7 of the Environment (Wales) Act 2016) were present onsite: Broadleaved woodland.
- 4.6 The woodland is located immediately north of the residential property and garage and is a designated TPO and ancient/ancient semi natural broadleaved woodland.
- 4.7 All works are to be undertaken on hardstanding (extension to the eastern aspect of the residential property). No woodland is to be removed as part of the proposed development and will therefore not be directly impacted (i.e. no impacts to the stems/branches of the trees or root zones) by the works.

Priority and protected species

- 4.8 The following priority species (as listed in Section 7 of the Environment (Wales) Act 2016) were present or likely to be present onsite: Nesting birds; foraging, commuting and roosting bats; and hedgehogs.

Bats

- 4.9 The local records search returned a number of records for bat species in the vicinity of the site, the closest and most abundant records are of common and unidentified pipistrelle species. A range of other species were also recorded including *Myotis*, long-eared and horseshoe bats.
- 4.10 The woodland to the northern part of the site is suitable to support foraging bats and provides sufficient cover for any bats emerging from the residential property and church (immediately west of the property), if present.
- 4.11 A small number of trees within the woodland held low potential to support roosting bats underneath the ivy and/or the ivy may be covering potential roosting features to support roosting bats.

- 4.12 The site is located within a moderately lit up residential area (see Figure 3). The radiance levels modelled at the site are $19.77 \times 10^{-9} \text{ W cm}^{-2} \times \text{sr}$ (www.lightpollutionmap.info), though darker pockets are present across the local landscape.

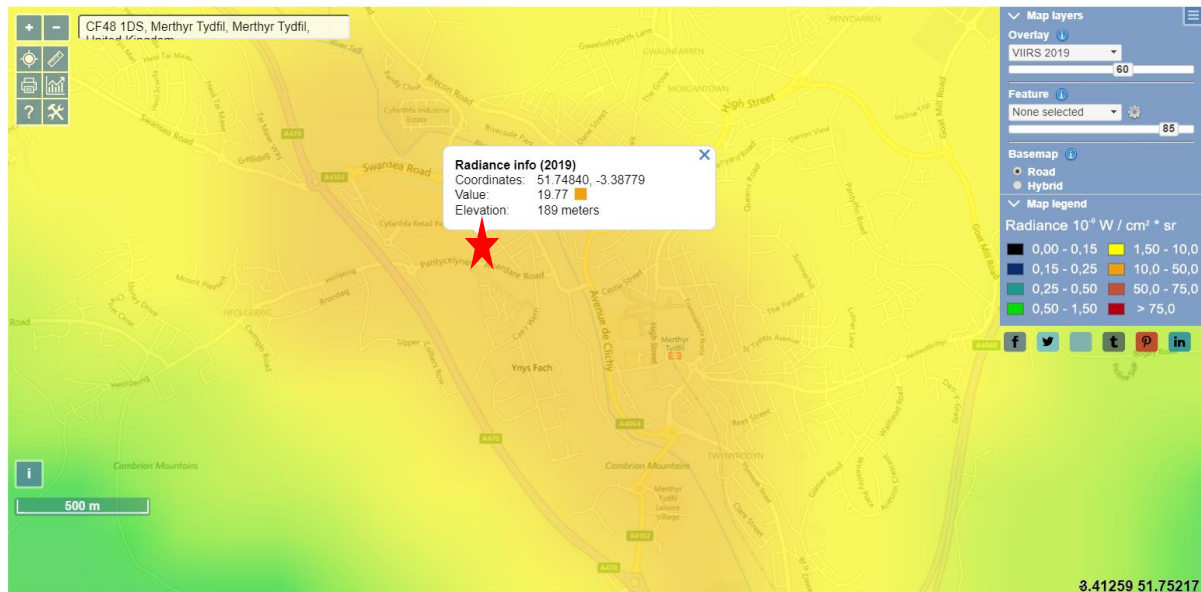


Figure 3 - Light pollution (radiance) of the local area. red star marks location of the site (www.lightpollutionmap.info)

- 4.13 The site is located 330m west of the River Taff, which offers high value foraging, commuting and roosting habitat for a range of bat species, including light intolerant species such as lesser horseshoe and long-eared species. The River Taff is linked to the site via treelines located along residential streets and gardens.
- 4.14 Due to the known records of roosts within proximity to the site and connectivity to high value foraging and commuting habitat, as well as the presence of vegetation on and around the site for some time, it is likely that bats will find their way to the site to forage, at least on occasion.
- 4.15 Based on the results of the PRA, an assessment of the potential suitability of the onsite buildings/trees for bats and nesting birds could be made (see Table 10).

Table 10 - Onsite buildings and tree suitability for bats and nesting birds

Building / tree reference	Suitability / confirmed use	
	Bats	Nesting birds
A	Moderate suitability	No potential – No suitable features
B	Low suitability	No potential – No suitable features
C	Low suitability	Potential for nesting birds in canopy and within ivy
D	Low suitability	Potential for nesting birds in canopy and within ivy
E	Low suitability	Potential for nesting birds in canopy and within ivy

- 4.16 The woodland within the site boundary is to remain and no additional lighting is to be installed, therefore the woodland and foraging habitat will not be impacted as part of the proposed development.
- 4.17 The garage is to be left in situ and will therefore not be impacted as part of the proposed works.
- 4.18 The (moderate) suitability of the residential building onsite together with the local records for bat species in the vicinity of the site means there may be a negative impact on bat species as a result of the proposed development within the residential dwelling.

Common dormouse

- 4.19 The record search returned no records for common dormouse in the vicinity of the site.
- 4.20 Although the woodland located within the northern area of the site does have potential to support dormice, the woodland is fragmented and surrounded by many 'A' roads, residential streets and gardens. It is therefore unlikely that dormice will find their way to the site.
- 4.21 If dormouse were able to reach the site, as the woodland within the survey boundary will not be impacted as part of the proposed development, they would not be impacted.
- 4.22 There will not be a negative impact on common dormouse as a result of the proposed development.

European otter

- 4.23 The local records search returned a number of records for European otter in the vicinity of the site (see Table 5) predominately located within the River Taff (within 500m to the east)
- 4.24 There are no waterbodies on site and there are residential housing developments, industrial parks and associated 'A' roads between the River Taff and the site, all of which create a barrier and reduce the woodland onsite's attractiveness to otters. The levels of disturbance onsite and around the local area are high, due to the presence of busy streets and the retail park.
- 4.25 There will not be a negative impact on European otter as a result of the proposed development.

Great crested newt

- 4.26 The local records search returned a number of records for great crested newt in the vicinity of the site, with the closest at 1.2km to the south.
- 4.27 There are no waterbodies or courses on site suitable for use by breeding amphibians, and whilst there is some habitat located within the woodland that could support newts during their terrestrial phase, the site is separated from linked habitat and waterbodies by roads and hardstanding (see Figure 4 below).
- 4.28 The woodland (habitat suitable to support newts during their terrestrial phase) will not be impacted by proposed development.
- 4.29 There will not be a negative impact on great crested newt as a result of the proposed development.



Figure 4 - One pond located within 500m that may support amphibians

Reptiles

- 4.30 The local records search returned a number of records for reptile species in the vicinity of the site.
- 4.31 The woodland on site shaded out the understorey with only the boundary of the woodland able to provide suitable habitat for insolation/basking. The woodland does offer brumation opportunities for reptiles, however.
- 4.32 The grassland onsite has been managed as a garden/lawn in the past, with some areas becoming of a longer sward height.
- 4.33 Despite there being a small amount of habitat onsite suitable to support reptiles, the surrounding roads and development create a barrier for reptile accessing the site, along with the management regime (regular cuts of shrubs, mowing of grassland) of any connected scrub or planting (i.e. around the retail park).
- 4.34 The historic management onsite and nearby, and lack of any suitable connected habitat support that there will not be a negative impact on reptile species as a result of the proposed development.

Nesting birds

- 4.35 The local records search returned a number of records for nesting bird species in the vicinity of the site, including some Schedule 1 designated species. In addition, several bird species were encountered onsite during the PEA.
- 4.36 The site offered suitable habitat for nesting birds within the scrub and woodland onsite, and robin and blackbirds were seen onsite within the woodland during the survey. The residential

dwelling and garage offered no suitable opportunities for nesting birds, and no signs of old nests were noted within these structures.

- 4.37 The site's location does not support its use by more secretive species or those that require less disturbance.
- 4.38 The woodland is to remain as part of the proposed development however some areas of scrub may need to be managed or removed.
- 4.39 There may be a negative impact on more common nesting bird species as a result of the proposed development, depending on the time of year that they are undertaken (i.e. direct impacts) or through loss of habitat (i.e. available nesting locations).

European badger

- 4.40 The local records search returned a number of records for European badger in the vicinity of the site.
- 4.41 The woodland located within the survey boundary offers suitable habitat for badgers to forage or build setts. However the site is fragmented from other large areas of woodland and surrounded by roads and residential developments, with it unlikely that badger will venture to the site, unless opportunistically.
- 4.42 There were no signs of badger use on site, with no latrines, setts, hairs, scent or snuffle holes found within the site boundary.
- 4.43 There will not be a negative impact on European badger as a result of the proposed development.

West European hedgehog

- 4.44 The local records search returned eighteen records for west European hedgehog species in the vicinity of the site.
- 4.45 The site offers suitable habitat for nesting and foraging hedgehogs within the scrub and woodland. Although the site is surrounded by a busy road, they may gain access to the woodland on site via residential gardens.
- 4.46 The woodland onsite is to remain in situ and will not be impacted as part of the proposed works, although there may be impacts on hedgehog during scrub clearance in the absence of mitigation.

Invertebrates

- 4.47 The local records search returned a number of records for invertebrate species in the vicinity of the site.
- 4.48 The site offered no suitable habitat for marsh fritillary (i.e areas with devil's-bit scabious) although there are foodplants suitable to support a variety of moth species (e.g. small phoenix and knot grass) and butterfly species (e.g. white letter hairstreak and white ermine).
- 4.49 The woodland will not be impacted by the proposed works (other than some management of the scrub) and will remain onsite. Minimal management of the amenity grassland will be required, however it is likely that management of the grassland will enhance/benefit the habitat onsite (reducing scrub encroachment), therefore there will not be a negative impact on invertebrate species as a result of the proposed development.

Other species

4.50 No other priority or protected species (as returned within the local records search) were observed onsite or were likely to be found onsite in more seasonally appropriate times of year.

4.51 There will be no impact on other species as a result of the proposed works.

Invasive species

4.52 There were several stands of butterfly bush, bamboo and cotoneaster found onsite. These are a species classed as non-native invasive but are not included in Schedule 9 of the Wildlife and Countryside Act (1981), as amended. These will not be impacted by the proposed renovation/extension works.

Impacts of proposed development

4.53 Table 11 summarises the impacts of the proposed development on protected species that are or may be present onsite.

Table 11 – Indicative potential impacts of the proposed development affecting onsite protected species.

Species	Negative impact* (plus scale and nature of impact)
Bats	There may be negative impacts through roost loss within the residential building, if bats (of any species) are present; there will be negligible impacts on foraging or commuting bats as a result of the proposals
Common dormouse	None – no habitat is to be removed or additional lighting installed
European otter	No impact
Great crested newt	No impact – no habitat suitable to support great crested newts is to be impacted.
Reptiles	No impact – no habitat suitable to support reptiles is to be impacted
Nesting birds	Common species (small garden bird species) that are more tolerant of disturbance may be impacted by during the construction works of the extension.
European badger	No impacts
West European hedgehog	No impacts
Invertebrates	No impacts.
Invasive Species	No impacts

*Ultimate assessment of the scale and nature of impacts is dependent upon on final design of proposed development and exact habitats affected.

5 CONCLUSIONS AND RECOMMENDATIONS

- 5.1 Wildwood Ecology was commissioned to undertake a Preliminary Ecological Appraisal (PEA) of The Vicarage, Cyfartha, Merthyr Tydfil.
- 5.2 The site is the subject of a planning application for the renovation and construction of an extension to the eastern aspect of the residential dwelling.

Designated sites

- 5.3 Designated sites in the vicinity of the site are sufficiently well separated so that no impacts on their designated features are anticipated as a result of the proposed development.

Protected species

- 5.4 Recommendations regarding protected species are shown in Table 12.

Table 12 – Recommendations.

Species	Recommendations
Bats	- Two bat activity surveys are required on the residential dwelling (between May-September). - No additional light to be installed. - No night-time working. - The woodland within the northern area of the site to remain as a dark corridor for foraging bats (and other nocturnal species). - If the proposals change and trees within the woodland require removal then the local council must be consulted as the woodland has a TPO order on it. If trees with low bat roost potential must be soft felled with caution.
Common dormouse	No further surveys required.
European otter	No further surveys required.
Great crested newt	No further surveys required.
Reptiles	No further surveys required.
Nesting birds	If habitats suitable for nesting birds are to be removed (scrub/introduced shrub), then any vegetation clearance will take place outside of the bird nesting season. In the event that clearance work has to be undertaken during the nesting season (generally from 1 st March until 31 st August, although birds are known to nest outside of these dates in suitable conditions), a breeding bird survey will be required and must be carried out by a suitably qualified person. Any active nests identified should be protected until the young have fledged. Where a Schedule 1 species (as defined in the Wildlife and Countryside Act - http://www.jncc.gov.uk/page-3614 is involved, compensation for impacts, e.g., loss of nesting sites, should be devised and implemented.
European badger	No further surveys required. No trenching will be left open overnight without a means of escape for animals e.g. a plank set at 30°
West European hedgehog	No further surveys required. Precautionary approach to vegetation removal is recommended with layered cuts taken, allowing full sight of the litter layer. To be removed by hand tools only and following pre-commencement check (immediately before) for hedgehogs. Any animals found will be relocated to the woodland into a similar feature after a health check.

Invertebrates	No further surveys required. Any new seeding of lawns or planting areas will include species that are supportive to bees and other invertebrates.
Invasive species	No further surveys required. Removal of cotoneaster, buddleia and bamboo is advised, with replanting with nectar-rich species of value

Biodiversity enhancement

- 5.5 Local Authorities have a duty (known as the 'Biodiversity and resilience of ecosystems duty') under the [Environment \(Wales\) Act 2016](#) to seek to maintain and *enhance* biodiversity in the exercise of their functions.
- 5.6 Where possible the existing onsite habitat will be retained to ensure that species are not adversely affected by the development. Native species of local provenance will be used for any new planting on the site to support The Action Plan for Pollinators in Wales, 2013 (<http://gov.wales/docs/desh/publications/130723pollinator-action-plan-en.pdf>).
- 5.7 Creation of water features or raingardens will provide benefit to a range of wildlife species, especially when planted up with native pond plants such as marsh marigold, water forget-me-not, rushes, and ragged robin.
- 5.8 Enhancement measures for bats will be provided once further information regarding the species using the woodland is known.

Overall conclusion

- 5.9 The full ecological impacts of the proposed development cannot be fully assessed following the PRA/PEA survey alone and further survey work is required.

This ecological report will remain valid for a period of 18 months from the date of the last survey - i.e. until August 2021. Further surveys may be required to update the site information if planning is not obtained or works do not commence within this time period.

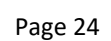
6 REFERENCES

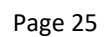
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APPENDIX I: PEA PLAN



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APPENDIX III: SURVEY IMAGES



Figure 5: Southern aspect of residential dwelling



Figure 6: Roof void within residential dwelling



Figure 7: Bedroom on second floor of residential dwelling



Figure 8: Amenity grassland with scrub



Figure 9: Cotoneaster (TN3)



Figure 10: Gap between soffit box and wall



Figure 11: Garage (missing mortar in brickwork)



Figure 12: Broadleaved woodland



Figure 13: Tree with low bat roost potential (D and E on PEA plan)



Figure 14: Bamboo



Figure 15: Wall around the western boundary of the site



Figure 16: Northern aspect of residential dwelling

APPENDIX IV: SPECIES LIST

To be submitted to the appropriate Local Records Centre

Site Name: The Vicarage, Cyfartha, Merthyr Tydfil **Provided by:** Wildwood Ecology Ltd

Grid ref: SO0427806365 **Verified by:** Julie Player

Common name	Scientific Name (if known)	Number	Comment
Ash	<i>Fraxinus excelsior</i>		
Holly	<i>Ilex aquifolium</i>		
Birch	<i>Betula sp</i>		
Sycamore	<i>Acer pseudoplatanus</i>		
Oak	<i>Quercus spp.</i>		
Lesser celandine	<i>Ranunculus ficaria</i>		
Creeping buttercup	<i>Ranunculus repens</i>		
Fern sp	<i>Fern</i>		
Beech	<i>Fagus sylvatica</i>		
Ivy	<i>Hedera helix</i>		
Rose sp	<i>Rosa sp</i>		
Butterfly bush	<i>Buddleja davidii</i>		
Bamboo	<i>Bambusoideae</i>		
Yorkshire fog	<i>Holcus lanatus</i>		
Cock's-foot	<i>Dactylis glomerata</i>		
Annual meadow grass	<i>Poa annua</i>		
Rosebay willow herb	<i>Chamerion angustifolium</i>		
Perennial rye grass	<i>Lolium perenne</i>		
Dandelion	<i>Taraxacum officinale agg.</i>		
Daisy	<i>Bellis perennis</i>		
Common primrose	<i>Primula vulgaris</i>		
Cotoneaster	<i>Cotoneaster spp.</i>		
Robin	<i>Erithacus rubecula</i>		
Blackbird	<i>Turdus merula</i>		

APPENDIX V: PLANNING POLICY AND LEGISLATION

The following local and national planning policy and both primary and European legislation relating to nature conservation and biodiversity status are considered of relevance to the current proposal.

Planning and biodiversity

Local Authorities have a requirement to consider biodiversity and geological conservation issues when determining planning applications under the following planning policies.

Planning Policy Wales (2018) and Technical Advice Note 5 (2009)

Planning Policy Wales (Edition 10, December 2018) sets out the land use planning policies of the Welsh Government, integrating with the Environment (Wales) Act (2016). The advice contained within Planning Policy Wales (PPW) is supplemented for some subjects by Technical Advice Notes (TAN's).

TAN 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':

- Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long term perspective;
- Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
- Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
- Ensure that appropriate weight is attached to designated sites of international, national and local importance;
- Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- Ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation;
- Ensure that the range and population of protected species is sustained;
- Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered;

Legislation and biodiversity

Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in the Conservation of Habitats and Species Regulations 2017 (as amended). These two main pieces of legislation have been consulted when writing this report and are therefore described in detail within this section.

Other relevant legislation and policy documents that have been consulted include – The Environment (Wales) Act 2016; The Countryside and Rights of Way Act 2000; The Hedgerow Regulations 1997; Biodiversity Action Plans, both UK-wide (UKBAP) and Local plans (LBAPs), and The National Planning Policy Framework (NPPF).

There is also legislation that legally protects certain animals - for example, the Protection of Badgers Act (1992) protects badgers and their setts, and the Deer Act (1991) places restrictions on actions that can be taken against deer species.

Environment (Wales) Act 2016

Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty.

Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.

Section 7 replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) [WCA] is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act deals with the protection of wildlife.

Most European Protected Species offences are now covered under the Conservation of Habitats and Species Regulations (as amended) (see below), but some 'intentional' acts are still covered under the WCA, such as obstructing access to a bat roost.

The WCA prohibits the release to the wild of non-native animal species listed on Schedule 9 (e.g. Signal Crayfish and American Mink). It also prohibits planting in the wild of plants listed in Schedule 9 (e.g. Japanese Knotweed and *Rhododendron ponticum*) or otherwise deliberately causing them to grow in the wild. This is to prevent the release of invasive non-native species that could threaten our native wildlife.

The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.

There are 'defences' provided by the WCA. These are cases where acts that would otherwise be prohibited by the legislation are permitted, such as the incidental result of a lawful operation which could not be reasonably avoided, or actions within the living areas of a dwelling house.

Licensing: certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example, scientific study that requires capturing or disturbing protected animals can be allowed by obtaining a licence – e.g. bat surveys.

Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (which are the principal means by which the EC Habitats Directive is transposed in England and Wales) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.

These regulations provide for the:

- protection of European Protected Species [EPS] (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts, and otters;
- designation and protection of domestic and European Sites - e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]; and
- adaptation of planning controls for the protection of such sites and species.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in exercising their function – i.e. when determining a planning application.

There is no defence that an act was the incidental and unavoidable result of a lawful activity.

Licensing: it is possible for actions which would otherwise be an offence under the Regulations to be undertaken under licence issued by the proper authority. For example, where a European Protected Species has been identified and the development risks deliberately affecting an EPS, then a 'development licence' may be required.

Species protection

The following protected species information is relevant to this report. Legislation is only discussed in relation to planning and development; other offences may exist.

Amphibians

The common frog, common toad, common newt, and palmate newt receive limited protection under the Wildlife and Countryside Act 1981 (as amended), making it illegal to sell or trade them.

The Great Crested Newt and Natterjack Toad are fully protected under the Conservation of Habitats and Species Regulations 2017 (as amended) as European Protected Species. It is illegal to:

- Deliberately capture, injure, kill, or disturb either species,
- Intentionally or recklessly obstruct access to any structure/place used for shelter or protection, or
- Damage or destroy a breeding site or resting place.

Badger

Badgers are protected in the UK under the Protection of Badgers Act 1992. Under the act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat⁴ a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett⁵ (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain; it is not intended to prevent properly authorised development.

Bats

All British bats are classed as European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence *inter alia* to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb bats;
- Damage or destroy a breeding site or resting place of a bat.

In addition, all British bats are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which any bat uses for shelter or protection; or
- Disturb any bat while occupying a structure or place which it uses for that purpose.

If proposed development work is likely to destroy or disturb bats or their roosts, then a licence will need to be obtained from Natural England, which would be subject to appropriate measures to safeguard bats.

Birds

In the UK, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 (as amended). All wild birds, their nests and eggs are protected it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any such bird whilst it is in use or being built; or
- take or destroying an egg of any such wild bird.

The law covers all species of wild birds including common, pest or opportunistic species.

Special protection against disturbance during the breeding season is also afforded to those species listed on Schedule 1 of the Act.

⁴ The intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting “cruel ill treatment” of a Badger

⁵ A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Advice issued by Natural England (June 2009) is that a sett is protected as long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger.

Dormice

The common dormouse is classed as a European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence *inter alia* to:

- Deliberately capture, injure, or kill a dormouse;
- Deliberately disturb dormice;
- Damage or destroy a breeding site or resting place of a dormouse.

In addition, the dormouse is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which a dormouse uses for shelter or protection; or
- Disturb a dormouse while occupying a structure or place which it uses for that shelter or protection.

Otters

The European Otter, *Lutra lutra* is a European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence *inter alia* to:

- deliberately capture, injure or kill any wild otter;
- deliberately disturb wild otters;
- damage or destroy a breeding site or resting place of an otter.

In addition, the otter is listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- disturbs an otter while it is occupying a structure or place which it uses for shelter or protection; or
- obstructs access to such a place.

If proposed development work is likely to destroy or disturb otters or their resting places, then a licence will need to be obtained from Natural Resource Wales, which would be subject to appropriate measures to safeguard otters.

Reptiles

Adders, slow worms, grass snakes and common lizards are protected against killing and injuring under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it illegal to intentionally kill or injure a common reptile. As a result, reptiles must be removed from areas of development and relocated onto suitable release sites before any site works can commence.

Smooth snakes and sand lizards are European Protected Species under schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). This makes it illegal to carry out the following activities:

- Deliberately or recklessly disturb, capture or kill these animals;
- Deliberately or recklessly take or destroy eggs of these animals;
- Damage or destroy a breeding site or resting place of such a wild animal; or

Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal, or any part of, or anything derived from such a wild animal.